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VOL. XVIII NO. 10

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Personnel Quality Control Programs . . .

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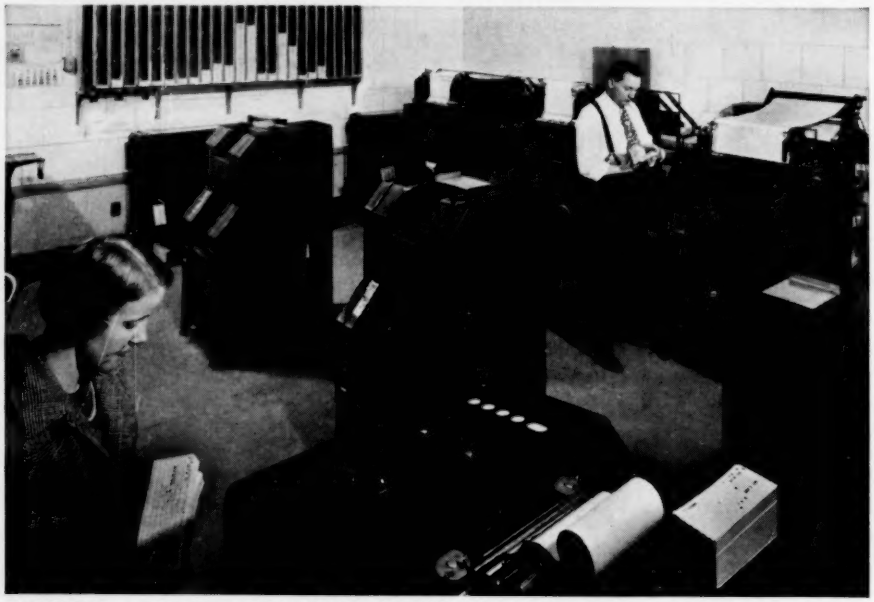
SOCIETY FOR ADVANCEMENT OF MANAGEMENT
The Pioneer in Management Philosophy

Remington Rand Methods News



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THE sales manager's most pressing problem is keeping up with new management methods and techniques continually developing in industry, commerce, government, and education. He must keep his company's operation up to date, continually progressing—at the same time take care of day-to-day supervisory and administrative responsibilities.

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Bruce Payne, President, SAM

Factors Involved In Applying Research to The Actual Operation of a Business

by Frank Lang

Modern management men realize the era of regarding research as academic or theoretical is gone. Today research is one of the strong factors dictating business policy and procedure. But the application of research to day-to-day business functions can easily elude the busy executive. This author discusses the approach of modern management to the discoveries of research, then shows how one insurance company has applied research to its everyday operations and the long-range policies of its business.

BUSINESS management has never been confronted with so many varied problems as those it faces today. The ever-increasing pressure of current operations has left management little time for objective appraisal of over-all policies, or for the long range planning so necessary in a period of change. And there is no magic formula on which management can base its decisions, immediate or long-range. Rather a mass of forces and indications, trends and counter-trends, pressures and counter-pressures, must all be watched and weighed.

What management primarily has been seeking is a point from which to control its activities and a measure to identify and evaluate these factors. One answer is "the scientific method."

The scientific approach in business is best exemplified by its use in a formal research program. Research combines the quest for new knowledge with the utilization of what is already known. Industry has found research not only profitable but necessary. Research on nylon took 13 years, but the company found it a most profitable investment.

Most research involves the following fundamental steps: creative thinking; recognition and statement of the new problem; determination of sound overall objectives; search for facts; their orderly classification; their analysis into significant relationships; their interpretation free from bias; plans of action; the final follow-through.

When research is considered as an over-all program, its application to business problems becomes obvious.

The relationship of insurance to research is an unusual one. Scientific principles, some of which have been brought to great refinement, are the very foundation of our business. How can an underwriter decide to accept or reject a given risk unless he has a mass of data at his disposal? A rate cannot be set without research on losses and expenses. A new policy cannot be offered without research into hazards of various types. Funds cannot be conserved without research on the safety and returns of various types of investment. Insurance companies have contributed much in providing research in these fields.

There are, however, other areas of business research which have become recognized only in recent years: various aspects of management research. This is the broad factual approach to management problems, the application of scientific principles to the formulation of fundamental policies. Perhaps because of the public service nature of their operations, insurance companies, more so than some other businesses, cannot afford to make decisions without careful planning and full consideration of all facts.

Workshops Investigate Cost Reduction

In this connection, I think a project the Association of Casualty and Surety Companies started quite recently has made a real contribution—a series of workshops on cost reduction and control. These Workshops are part of the Research Department's long-term management research project, aimed at assisting member companies to reduce cost of operations and increase efficiency and control. Our first efforts dealt with the use of manpower and the possible reduction in the number of man-hours required to perform certain operations. Since then, work has been done in connection with uniform accounting regula-

tions and problems dealing with the graduation of expense by size of risk. In the past two years, the most practical approach to specific problems has been the establishment of these workshops. Based on the assumption that a joint research approach and free exchange of information on common problems would be of direct help to everybody, they are carefully-planned seminars for the exchange of information on various management questions. Preparations for these sessions start many months in advance and the problems taken up range from points of detailed procedure to important issues of general management bearing on the progress of industry decades ahead.

Centralization vs. Decentralization

One of the most pressing modern business problems is centralization versus decentralization. Should the effort be to centralize as many decisions and procedures as possible in the home office, or should companies try to decentralize their operations and place more and more responsibility in the field?

For business and industry as a whole there undoubtedly has been in the last decade a definite trend toward decentralization. Business has been dividing large complex companies into a group of relatively small businesses by product line, by type of operation, or by area, in order to obtain components which can be managed more efficiently and kept in closer touch with local conditions.

Some authorities on management have even gone so far as to suggest that in the case of manufacturing companies at least home-office personnel may in time become in effect merely management consultants to the branches, which would be kept small and almost completely autonomous.

Both economic and social reasons are advanced in support of this trend. It is contended, first, that big business, like big government, tends toward bureaucratic red tape, with a consequent loss of efficiency and greater expense in the long run, despite the apparent economies achieved by centralization. Most importantly, it is argued that the size of many of the industrial units today is in good part responsible for the personnel problems many large manufacturing companies are encountering. This is so, it is argued, because every decision coming down from the top and every opinion or suggestion coming up from the bottom, must, of necessity, pass through a long chain of command and inevitably become distorted in the process.

These considerations have some validity for insurance companies as well as for manufacturing companies. However, insurance faces some special problems of its own, which may mean that the best course for manufacturing companies would not necessarily be best for insurance—to say nothing of the fact that each individual insurance company has many special problems it must take into account. Thus a trustworthy answer to the question of centralization versus decentralization can be provided only by the scientific study of each particular situation. Following are some of the points which must be considered.

A good deal of cost reduction is likely to be achieved by further mechanization of operations. But if operations are decentralized to the branches, we must equip each branch with the same equipment, which may or may not be used sufficiently to justify its purchase. How large a volume of business must a branch do in order to justify the purchase of such things as keypunching equipment and duplicating machines? That is a question that can be answered only by research.

Applying Philosophy to Operations

Closely related to the matter of centralization versus decentralization is the other big general management question presently confronting property insurance companies: should fire and casualty operations be integrated now that multiple-line underwriting is permitted? And if so, to what extent?

Historically, fire and casualty companies developed along different lines.

For the most part fire companies operated through a large body of state agents and fieldmen who performed a variety of services. They appointed agents, instructed them in policy writing, and showed them how to make up their monthly accounts current, and forward their remittances to the home office in a lump-sum balance. These men also made inspections, adjusted losses, and acted as advisers on underwriting matters. With this type of field organization, it was practical to have all underwriting, bookkeeping, statistical work, etc., performed in a centralized home office (or as some companies got larger, in two or three departmental or more or less autonomous offices).

Casualty insurance, which started much later, presented additional problems. The rating structure in such lines as workmen's compensation was complicated, and inspectors trained in machinery were needed to make inspections before policies could be issued. These and other technical problems made it impossible for the special agents to drop a bundle of supplies and expect local agents to handle and service the business with little guidance.

The casualty and surety business also required technical claims adjusters with legal knowledge, payroll auditors, and many different types of engineers—all of whom had to be located in an office somewhere near the insured property. Thus from the beginning the casualty and surety companies were organized on a branch office basis, and the branches naturally took over many of the services performed by special agents.

This fundamental difference explains many of the variations between the fire and casualty approaches to the handling of procedures, but there is also another big difference. In the fire business, units of premium are small and it requires a comparatively large volume of them to justify any considerable amount of overhead in the form of a completely-mechanized branch office. In the casualty business, premium units tend to be larger, and a smaller number of units can carry a larger overhead.

Now, on the surface at least, it appears debatable whether there should be two completely different types of organization to handle coverages included in one policy, as is often the case under the recently introduced multiple-line policies toward which there is now a trend. If amalgamation is accepted as the goal, the fundamental question which each insurance company will have to answer is this: should fire operations be adapted to casualty procedures or vice versa, or should some combination of the two methods be evolved?

Other Questions Answered In Workshop

Once the main problem of amalgamation has been settled, there are an infinite number of supplementary questions to be answered. Following are some of those discussed at workshop sessions:

How far should the integration be carried in the branch office as compared to the home office?

In the home office should there be broad underwriting divisions, such as property insurance (fire, inland marine, burglary, boiler and machinery), ocean

marine, third party coverages, and fidelity and surety? Or should there be one underwriting head for all divisions?

Will the development of package policies with multiple peril be an argument against the separation of the underwriting of property damage insurance from third party coverages, or is there a likelihood that new departments will be created to handle the underwriting of these specialty policies?

Another organizational problem which confronts many insurance companies is the use of committees and the extent to which authority should be delegated to these committees. Many executives find much of their time taken up in committee work both within the company and with other organizations; time which could be profitably devoted to actual operating problems. Much research is needed to decide such questions as: what functions should a committee perform? Who should serve on a committee? Are committees a practical means of perfecting integration of work on the multiple-line operations?

Committees Functions Should Be Merely Advisory

Many management authorities feel that committees should be merely advisory bodies since final decision on any matter will have to be carried out by one individual with proper authority in his field. Others feel that it is best to solve important problems through an exchange of opinion, and even delegate authority for binding decisions to various committees. Here business can learn a great deal from the basic research which various universities are conducting on the effectiveness of communication within groups.

We have tried to explore the basic questions such as these at our workshop sessions. We then try to develop outlines for discussion in such a way as to stimulate and coördinate executive thinking on the over-all goals, so that each company will be in a better position to determine the course of action best suited for its particular needs.

To come now to the supplementary problems of methods and procedures, the following are some typical examples of questions explored.

At one time it was standard casualty company practice to type a policy form and then type an "abstract" giving the data needed for statistical and accounting records two separate operations.

Many companies still do this, but research has shown a number of possible ways of eliminating the separate typing of the abstract, all of which have been tested by individual companies and found to work.

One company, for example, reproduces all the records necessary for several automobile lines from one hectograph master and is extending the use of this to comprehensive personal liability, residence burglary, and certain other lines. Others are using pre-carboned sets which also make it possible to get all the records from one typing. Still another has combined the two plans and is using a pre-collated set in which the second copy is a master from which other records can be reproduced.

Another plan—in use in at least one company—is to reproduce all records by Xerography or dry photography. Policies are being redesigned so that all information needed for the abstract is in a four-by-six rectangle in the upper right hand corner. After one typing, all the necessary copies can then be obtained by a photographic process.

Still another company utilizes the rectangle idea for all the information which must appear in typed form on the automobile policy, and types only a single master card, from which records and the policy itself may be reproduced. The amount of typing necessary has been greatly reduced by having most of the information printed on the policy form; thus under "coverages available" the typist need only add, for example, the letters A and B,—which refer to paragraphs in the insuring agreement.

In some cases, companies have eliminated abstracting altogether, and punch directly from the dailies.

Another traditional record which is being eliminated in some cases is the alphabetical index. Since most companies file their policies by number, it was formerly thought necessary to keep another file by the names of the assureds so that a policy could be quickly located if the notice of claim gave only the name.

But is this necessary? Research has shown that it is possible to dispense with indexing in the home office, as it often duplicates work in the branch, and at least two companies have found it possible to dispense with indexing altogether. There are always some records kept in the field which enable these companies to locate a policy, such as the daily reports filed alphabetically.

A fact to be remembered about research is that it challenges all traditional methods of doing things, and accepts nothing as final. For example, it is generally considered that machine work is more efficient than handwork. No one would deny that this concept is true in general, but research has shown that there are occasions when even the common typewriter adds to, instead of subtracting from, cost by incorporating extra steps in procedure.

One Way to Cut Labor Costs

One company originally went through the following steps in producing statements in the accounting department for the use of executives:

1. A clerk hand-posted the data to ledger paper.
2. The data was typed.
3. The typing was checked to insure that all figures were accurate.
4. Extra copies were reproduced for distribution.

Now this company has achieved an annual saving of $17,000 in labor costs (statistical typists are high-priced) by eliminating Steps 2 and 3. The accounts clerk simply handposts the information to a prepared form which is part of a pre-collated set that includes a multilith or hectograph master, checks his data with a calculator, and the form is ready for reproduction. Management finds the handwritten statements just as easy to understand as typewritten ones.

Some companies are also finding that punch cards can be reproduced just as well from handwritten as from typed codes. One step in the processing of the policy is thus omitted, which means a saving in labor cost. Further, a chance for making mistakes has been eliminated, since every copying operation increases the possibility of error.

This is not meant to suggest that the trend is toward elimination of typewriters or other machines in our offices; on the contrary, the indications are that mechanization is increasing. Electric typewriters and improved punch card machines, as well as improvements in reproduction processes, are among the best tools of cost reduction. The point made here is that the entire company organization, and all of its procedures must be scrutinized by research.

Some of the other cost-saving studies on which companies have been working and from which we have got some answers, or partial answers, or hope to get answers, through various management research projects, deal with such questions as:

How can the processing of endorsements be speeded up? In some cases the

cost of recording the transaction exceeds the premium charged for the extra coverage. What can be done about this?

What is the most economical way of recording commissions on multiple-line policies where different commission rates apply?

How can policies be redesigned for easier typing?

Is it necessary to supply agents with renewal lists?

Answers to These Questions Affect Final Decision

Small questions all of them, and so are hundreds of others of similar character which come up for discussion in our workshop groups. But the sum total of the decisions made on points like these may spell the difference between underwriting profit or loss.

Management research is applicable not only to insurance companies in their home and branch offices, but its use can be extended to agency and brokerage operations as well.

One agency, for example, found it profitable to have its entire executive and supervisory staff attend a course on principles and techniques of work simplification. Then the investigator examined each function by asking "What is done?", "Who does it?", "How is it done?", "When is it done?", "Where is it done?"

Such an analysis proved most profitable as it not only helped to reduce personnel, but freed managers for supervisory research and promotional work.

The application of research methods to insurance agency operations is a separate field of study. An analysis of present policies, with a view to the cost of renewing them, would afford great possibilities. A number of agencies which have conducted studies on the cost of the operation found that it cost them on an average of from $2.50 to $3.00 per policy to record a piece of new business on their books. It is very important for the average agent to know how much it costs him to handle a policy so that he can decide whether he can afford to keep certain business on the books, without securing additional insurance.

Research as a Help to Distribution

Another field in which research can help is the distribution of our products. Specifically, this type of research is known as "marketing research." Broadly defined, it is "the use of scientific methods in the solving of distribution problems." No large manufacturer would think of putting out a new product or changing an existing one without first testing to determine to what degree the consumer would accept it.

How can the insurance business use marketing research? To begin with, we must study what our market is, both present and potential. Such a study would include information on such subjects as: the proportion of spendable income available for insurance; the buying habits and motivations underlying the purchase of insurance; the acceptability of risks at different established rate levels; the extent to which existing policy contracts fit present or potential demands for protection.

Market Research Solves Vital Problems

Marketing research could determine answers to questions as: do people want protection against hazards for which no policy exists at present? Do people want a single comprehensive policy covering all risks? Do people prefer wide contracts or special character, such as a fire policy covering their goods against fire anywhere, just so long as they maintain ownership? Do they want another package policy insuring against all possible losses caused by dishonesty? Do they want one-, three-, five-year, or longer term policies for any of these contracts?

These vital marketing questions could be settled in advance by research, making it possible to avoid the expensive hit-or-miss, trial-and-error methods.

A study of the market, combined with an analysis of present sales, would give an insurance company a guide to the number of agents needed in any given territory. Research could also supply information on the need for certain types of coverages in selected territories, the types of coverages which should be pushed, and the proper timing of particular drives to coincide with public demand.

Research can be applied also to the insurance market on a local agency level. Traditionally, companies have set up a distributive force simply by going out and finding agents, then hoping that they will find enough customers to survive. In contrast, research makes possible an approach based on facts. It can show the type of market in which the new agency will operate and the forces with which it must contend; it can show which parts of the territory are already saturated, which are relatively untouched; it can reveal the best sources of recruitment.

Market research can also help in the day-to-day operation of the average insurance agent. The agent in spite of all the assistance given to him, claims that he is severely handicapped by lack of adequate instruction and lack of time to give to research because his main effort must go into selling and servicing clients. Market research would not only benefit the companies in the establishment of a better selling force, it would be of equal help to the agents by pointing out to them what markets are the most profitable ones; it would furnish them with a mass of information that would mean more premium dollars than they at present have hopes of acquiring; it could provide them with a series of interview tools, panel suggestions, and devices for stepping up their sales techniques; it could provide a directive influence upon their activities which in the end would produce many more profitable contracts.

Another aspect of marketing research is much discussed today: the study of distribution costs. Questions which might be considered are: What does it cost to acquire different forms of insurance? What does it cost to renew old business, to carry existing business on the books, to discharge existing business? How much does it cost to appoint a new agency? In many quarters it is felt that low premium policies cost our companies more to put on the books than they can charge for them. Many agents further claim that they cannot solicit certain business except as an accommodation. Market research could throw a great deal of light on such issues.

In this article I have hardly scratched the surface of this fascinating subject, but have tried to open some of the vistas.

At present we are witnesses of many changes in the philosophy governing the methods used in business. Some of these changes will come quickly; others will appear more gradually.

Research must not be expected to do too much; it must be a continuing process, since organization requirements, techniques, procedures, markets and consumer desires are constantly changing. Research can, however, indicate the direction in which we are moving and the pressures, internal and external, which will be likely to affect the conduct of the business—and so enable us to keep on the track toward our long-term goals. END

A History of Scientific Management In The United States of America

by Henry P. Dutton

Here is a brief but comprehensive history of the management movement as it has grown and gathered force in the United States. At a time when conditions seem to dictate a careful study of management values and objectives, the profession may well profit by a look at its past, written especially for AM by a dean of the management field.

SCIENTIFIC management is the application of the scientific method to the organization of work. The scientific method, in turn, may be summarized as the extension of knowledge by controlled experimentation, by the testing of hypotheses and, subject to constant review in terms of changing situations, by the establishment of laws and principles which make prediction possible.

While the application of the scientific method is a significant feature of scientific management it does not wholly encompass the concept. Harlow S. Person, Morris L. Cooke, and Dan M. Braum have defined scientific management as:

"A concept and mental attitude toward achievement, which exercises basic systematic techniques for discovering and establishing objectives, plans, standards, methods and control of an enterprise, all within the laws of each situation and in an environment of high morale, and thereby exemplifies the best use of human and material energy."

Frederick W. Taylor stated in *The Principles of Scientific Management*:

"These new duties are grouped under four heads:

First. They develop a science for each element of a man's work, which replaces the old rule-of-thumb method.

Second. They scientifically select and then train, teach and develop the workman, whereas in the past he chose his own work and trained himself the best he could.

Third. They heartily cooperate with the men so as to insure all of the work being done in accordance with the principles of the science which have been developed.

Fourth. There is an almost equal division of the work between the management and the workmen. The management takes over all work for which it is better fitted than the workmen, while in the past almost all of the work and the greater part of the responsibility were thrown upon the men."

Scientific management is not an isolated movement. It was part of that great surge of progress which resulted from the application of the scientific method to material phenomena. It was inevitable that someone should see the possibility of an application of that same scientific method of experimentation and questioning to industry. Taylor's training and interest lay chiefly in the metal-cutting industry and the shop. But the approach he used has been applied in such widely differing fields as government, agriculture, warfare, surgery, home management, accounting and office work, selection of personnel, marketing, and finance. Scientific management as a school of thought and practice has benefited from and stimulated thinking in psychology, human relations, and government.

Taylor Discovers Key to High Productivity

Frederick Winslow Taylor, born March 20, 1856, was apprenticed in 1874 to the Enterprise Hydraulic Works in Philadelphia. He was struck by the

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This history was done by a committee of the SOCIETY FOR ADVANCEMENT OF MANAGEMENT, including P. S. Brown, Evelyn Buckley, Morris L. Cooke, John J. Furia, Leonard Outhwaite, Harlow S. Person, Ordway Tead, Sanford E. Thompson, R. R. Zimmerman, H. P. Dutton, *Chairman*. Based in part on a *History of Scientific Management in America* prepared for the 1938 International Management Congress by H. S. Dennison, H. P. Dutton, H. P. Kendall, H. S. Person and S. E. Thompson, *Chairman*, published in MECHANICAL ENGINEERING, Sept., 1939.

difference between the actual and the potential output of his fellow-workmen and when he became a foreman felt a responsibility to retrieve what he could of this wasted productive capacity. The attempt to do so led to a distinguished series of explorations and accomplishments. He was to find that interference with high production resulted not only from the traditional reluctance of labor, but from the lack of systematic planning and preparation by management.

Taylor was early led by these interests to a study of metal cutting. With the aid of Carl G. L. Barth, who joined him at the Bethlehem Steel Company in 1899, Henry L. Gantt, (Midvale, 1897) and the cooperation of William Sellers at Midvale and later at Bethlehem, he performed a massive series of experiments to determine the best and most economical combinations of speeds, feeds, depth of cut and shape of tool for metal cutting. Controlling, for example, all but one variable (as speed, feed or depth of cut) He measured the amount of metal removed at various speeds, and determined the combinations of these factors which accomplished the fastest removal of metal consistent with a given tool life. Slide rules were devised to permit rapid calculation of the proper combination of factors for a given job. The invention of one of the first high-speed steels by Taylor and Maunsel White was an outgrowth of these studies. In 1906 Taylor reported his findings to the American Society of Mechanical Engineers in his paper *On the Art of Cutting Metals.*

Many similar studies were made, some of them mentioned by Taylor in *Shop Management.* Among these were studies of belting and of the selection of inspectors. Taylor and Sanford E. Thompson also applied similar methods of measurement and analysis to construction costs. The first decimal stop-watch was invented by Thompson during these studies. Taylor also interested himself in such matters as determining experimentally the optimum rest periods for heavy work.

Gilbreths Used Film to Study Motion Elements

The work done by Taylor in the improvement of operations by measurement and analysis interested Frank G. Gilbreth and his wife, Lillian M. Gilbreth, and in 1909 *A Bricklaying System* by Gilbreth was published, followed in 1911 by *Motion Study* and in 1920 by *Motion Study for the Handicapped.* The first book on the application of psychology to management was published by Lillian Gilbreth in 1914, *The Psychology of Management.* To the work of these two may be traced in large part the development of an intensive and productive analysis of work methods. They were the first to apply the motion picture camera to the recording and analysis of performance, the first to classify the motion elements or "therbligs." In large part the laws of motion economy, looking to the systematic elimination of inefficiencies and waste, were formulated by them. Out of this work grew the idea of estimating performance times as the sum of the times normally taken for the performance of the elementary motions used in the operation, a promising approach to which A. B. Segur, Harold Engstrom and H. B. Maynard among others have contributed.

Growth of an Integrated System of Management

Exploring in still another direction, Taylor, Barth, H. King Hathaway, and others worked out the details of an integrated shop procedure which included systems of planning and scheduling, material and tool control, movement of work, symbolization and identification of materials and accounts; in short, an integrated system of management. Harrington Emerson also did pioneer work in integrating shop procedures in the Topeka shops of the Atchison, Topeka and Santa Fe Railway Company.

In 1911 Taylor published *The Principles of Scientific Management,* in THE AMERICAN MAGAZINE. In the same year Louis D. Brandeis, later to become an associate Justice of the Supreme Court, called Harrington Emerson to testify before the Interstate Commerce Commission that the railways could, by applying the principles of scientific management, save over a million dollars a day.

A conference of over 300 business men was called by Harlow Person at the Tuck School of Dartmouth to hear the new gospel. Overnight, scientific management became headline matter and caught the attention and aroused the enthusiasm, or antagonism, of thousands. It was inevitable that many whose only qualification was enthusiasm should attempt to apply the principles. Labor feared that the tool of time study would be used against them and in 1915 secured the passage of a rider to appropriation bills which prohibited "the making or causing to be made, with a stop-watch or other time-measuring device, a time study" . . . on government contracts.

The death of Taylor in 1915 and the opening of the First World War set a natural period to this first phase of the movement. Engrossed in the war effort, the country adopted without argument and, almost unnoticed, incorporated into the general body of business practices most of the procedures and approach of scientific management, and enlisted many of the leaders in the war effort.

The post-war period marked the spread of the movement in new directions. Professional consultants appeared and colleges began to train young people in management as a profession. A beginning was made in the licensing of qualified professional industrial engineers. An early application of the scientific method to marketing, made by Walter Dill Scott in testing the effectiveness of advertising, foreshadowed extensive developments in the field of distribution.

The theory of organization has engaged the attention of military men since the Middle Ages. The intensive study of industry led to a renewed interest in the organization field. C. DeLano Hine early published a study of centralization in railway organization. Mooney & Reiley's *Onward Industry* in 1931, Mary P. Follett's lectures on the functional basis of authority, Fayol's *Industrial and General Administration,* (translated from the French in 1930), Chester I. Barnard's *The Functions of the Executive* in 1938 and Alvin Brown's *Industrial Organization* in 1949, are representative contributions. Much work has also been done in public administration; a noteworthy collection of articles in this field, *Papers on the Science of Administration,* edited by Luther and Gulick, was published in 1932.

Emphasis Shifts to Over-all Picture

Increasingly, interest shifted from details to over-all planning and control. The idea of the integrated effort made decisive contributions to the First World War in the Allied Shipping Control and was to be even more significant in the Second. The genesis of such proposals for integrated regional developments as the Tennessee Valley Authority may be traced in part to this thinking.

An early book in the field of accounting and financial control was *The Proper Distribution of Expense Burden,*

by A. Hamilton Church, published in 1916. William H. Leffingwell published *Office Management, Principles and Practice* in 1925, a forerunner of many studies in this field. John H. Williams' articles, such as *A Technique for the Chief Executive*, which appeared in the *Bulletin of the Taylor Society* in 1922, and John M. Clark's *Economics of Overhead Cost*, which appeared the same year, proposed procedures for the separation of fixed and proportional elements in operating costs and made modern budgeting and cost analysis possible.

Government Benefits From Management Research

Governmental operations have been subjected to the application of scientific management principles from the time when Henry Metcalf used cost cards at the Frankford Arsenal in the 1880's. Copley's biography, *Frederick W. Taylor*, describes the interest taken in the new methods by the Army, Navy, and other governmental departments.

The Forest Service was probably the first government agency to apply scientific management in a thorogoing manner. As Secretary of Commerce, Herbert Hoover gave great impetus to the elimination of waste in industry and to industry-wide standardization of products. As President he initiated steps for improvement in government operation which, as Chairman of the Committee on Organization of the Executive Branch of the Government, he was to bring up to date in 1948-49. An earlier significant report of similar tenor was made in 1938 by a committee headed by Luther Gulick. The Rural Electrification Administration, the Public Works Agency, and the War in general furnished notable illustrations of the application of scientific management to government. A National Roster of Scientific and Specialized Personnel in 1941 was one example of the war-born activities.

The great size of governmental activities has brought into prominence the staff functions and the devices of coordination, such as committees and councils. A Council of Personnel Administration, for example, coordinates personnel policies and acts to avoid conflicts in procurement.

In many other ways the Federal Government is attempting to apply scientific management. The Bureau of the Budget is leading in the widespread development of standards for office work. On the initiative of the Department of Agriculture, extensive work is being done through the land-grant colleges and other means, in the application of scientific management to agriculture. Various government organizations, such as Training Within Industry, made management techniques available to firms engaged in war production.

Perhaps more important has been the export of American know-how to less developed areas of the world, through such agencies as the Institute of Inter-American Affairs and the E.C.A., with the cooperation of the Council for International Progress in Management.

An American Society of Public Administration and a Personnel Administration Society provide forums for furthering the application of scientific management to government. The Washington Chapter of the Society for Advancement of Management has made government its special interest.

From the start the labor problem loomed large in scientific management thinking. Taylor, although he earned the respect of labor unions, was reared in a generation which expected the worker to obey, rather than to contribute to, the decisions of management. Yet, although the present-day philosophy of labor relations had not yet developed, Taylor instinctively understood the need of enlisting the active cooperation of workers in his experiments. He thought of incentive not only from the viewpoint of cash bonuses and awards, but of the desire to be recognized for personal worth, merit and efficiency, to be known as a "first class man."

The early efforts of employers to deal with labor problems tended toward the paternalistic, welfare type. Increasingly employers recognized that, as Barnard has put it, the subordinate really makes the laws since, unless the law wins his consent, they are not obeyed. Mary Follett has well expressed the new concept of leadership when she argued that the basis of command should be functional competence rather than position or fiat, that decisions should be made by those with the facts on which to base them. It was found, further, that men work better when they are given a voice in decisions affecting them.

New Trend to Restore Initiative to Workers

The evidence is accumulating that organizations with relatively few layers of management, work better than those in which the conventional seven-to-nine man "span of authority" introduces layers of intermediates between decision and action. The trend of management thinking is to restore initiative to the worker, from whom standardization and the machine, and machine concepts, had taken it away. While the manager continues to be finally responsible for results and to exercise final authority, his role is that of coordinator rather than supplier of intelligence and initiative.

It is a common mistake to believe that labor was slow to see the advantages of scientific management. Samuel Gompers said, as early as 1924:

"I liken the labor movement to a great Niagara. It can pour over the falls and do no useful work. If the employer will direct it and work with it, it can pass through the 'generator' of industry and render service to humanity."

In 1925 the American Federation of Labor said:

"We hold that the best interests of wage earners, as well as the whole social group, are served by increasing production in quality as well as in quantity, and by the high wage standards which assure sustained purchasing power to the workers, and therefore higher national standards for the environment in which they live, and the means to enjoy cultural opportunities."

Early Management Leaders Devise Methods of Cooperation

Certain leaders in scientific management, notably Otto Beyer, Sanford E. Thompson, Robert B. Wolf and Robert Valentine, were able to initiate practical patterns of cooperation which provided the necessary assurances of protection. In 1919 Wolf succeeded in greatly increasing the output of a paper mill by giving the workers increased responsibility for quality and supplying them with the instruments and the know-how needed for control. In the early 1920's Otto Beyer secured a notable cooperation between the unions and the management of the Baltimore and Ohio and other roads, through the use of joint councils of management and employees. In 1929 Morris L. Cooke and Francis Goodell were retained by the United Textile Workers for a then-unique arrangement. The management of the Naumkeag Steam Cotton Company had told their employeees that a 10 per cent cut in wages would be necessary if the mill were to get business. The Union was willing to take the cut if necessary but proposed that first an attempt be made to save money by improved methods. The attempt succeeded.

Such examples still represent the ex-

ceptional rather than the typical position of employer, union or industrial engineer. But the need for the cooperation of all during the Second World War, the rapid growth in the power of labor unions, the slowly growing realization that potential leadership is not limited to the employing classes and that we have not fully used the potential motivation that comes from participation by the worker, are having their effects in replacing an authoritarian philosophy by one more governed by the laws of the situation.

Scientific Management Must Promote Cohesive Culture

Scientific management is based on the tenet that truth and technology shall guide, an ethic still not universally accepted. It is possible, therefore, that scientific management must next concern itself with the processes that promote a cohesive culture.

Support for the theory that the most effective motivation in industry is participation was given by the now famous "Hawthorne experiments," initiated by the Western Electric Company in 1926, with the guidance of Elton Mayo of Harvard. Starting as a study of the effect of lighting on output, various experimental changes were made in other elements of the working situation such as wage systems, or rest periods, which supposedly affected output. Throughout the series, little correlation was found between the effect on output and the supposed cause; output kept increasing. It was concluded that the interest of the workers, their sense of participation and the attention given them as individuals, explained why production was higher in what the workers felt was an unsupervised situation than with conventional supervision. *The Human Problems of an Industrial Civilization*, by Elton Mayo, *Management and The Worker*, by Roethlisberger and Dickson, and *Management and Morale*, by F. J. Roethlisberger, summarize this experiment.

Scientific management has spread far beyond the borders of the United States. Wallace Clark was one of several Americans to introduce it in Europe. A Central Institute of Labor was organized in Moscow in 1920 and at about the same time the useful Industrial Fatigue Research Board was established in England. A series of International Management Congresses, held in Czechoslovakia in 1923, Prague, 1924, Brussels, 1925, Rome, 1927, Paris, 1929, Amsterdam, 1932, London, 1935, Washington, 1938, Stockholm, 1947, did much to spread the philosophy. An International Committee of Scientific Management was organized in 1924 to continue the work of the first successful Congress.

The formation of groups and societies dedicated to the study of management was inevitable. The year 1912 saw the launching of a Society to Promote the Science of Management, which became the Taylor Society on Taylor's death in 1919. The Efficiency Society, formed in New York in 1912 and in Chicago the next year, was succeeded in 1917 by the Society of Industrial Engineers. Similarity of aims led to the merging of the Taylor Society and the Society of Industrial Engineers in 1936 to form the present Society for Advancement of Management.

Increasing Specialization in Management Field

In 1921 the American Society of Mechanical Engineers, in whose publications appear many of the significant early articles on the subject, formed a Management Division. In 1919 the National Office Management Association and the National Association of Cost Accountants were formed, and in 1922 the American Management Association evolved from an earlier personnel group. The American Marketing Society was formed in 1931 and in the late '30s the American Society for Public Administration was added to the list. An Association of Consulting Management Engineers was formed in 1921 and in 1933 the National Management Council, composed of delegates of the various management societies, was organized to cooperate with the National Security Resource Board and to facilitate united planning of international management activities. This list takes no account of the many useful local and regional organizations, nor of groups in such related, specialized fields as personnel administration or statistical quality control.

The reconversion from the Second World War appropriately marks the end of the second phase of the scientific management movement. To foretell the direction in which a third phase will evolve is a task for the prophet rather than the historian. Clearly we are in a period of revolution, which has already caused profound shifts in the equilibrium of national and world power, and in thinking about human social and political relations. The wholesale adoption by Russia's totalitarian government of many of the mechanisms of scientific management proves that, like science, it is the monopoly of no single nation or class. Russia does not seem yet to have mastered the significance of the phrase "consent of the governed"; when she does, some of the tensions which today grip the world may relax. Until she does, our own groping realization of the importance, and knowledge of the technique, of cooperation, within the nation as among nations, may prove one of the sources of our strength.

There is still much work to be done in adapting cost accounting to the guidance of industry. There are still far too few practical administrators who apply to the conduct of groups the techniques of the engineer, a knowledge of the possibilities and limitations of such structural forms as the committee or the staff and the line organization, who understand the strengths and the limitations of people working in groups, and who can use this knowledge of organization science to produce results with an economy of both physical and human resources.

Management Science Must Answer Vital Questions

It becomes clear that if the advances of science and technique are to continue to be fruitful, today's most pressing problem is to know and govern the wayward impulses of the human heart.

The scale of enterprises, both business and government, has steadily increased; each increase in the size of the undertaking brings a more than proportionate increase in the complexity and difficulty of direction. It may well be that the fate of this civilization depends on the answers which must be found by an advancing science of management, to the problems raised by an ever-increasing scale of operations. END

In a special effort to serve the growth and broadening interests of its readership, ADVANCED MANAGEMENT will consider for publication submitted manuscripts germane to progress or development in any area of the modern management field.

The Editor

The Importance of Industrial Medical Departments as a Management Tool

by Dr. Daniel C. Braun

Medical departments in modern industry are among the most misunderstood and least evaluated tools of management today, this author says. He tells of the true value of industrial medicine to management, how much it costs, what it does, and how industrial medicine seems an inevitable part of tomorrow's most essential management plans.

INDUSTRY and medicine have been aware of each other's existence in some degree over a long span of years. Medicine, or at least certain of its practitioners, knew about many health problems of industry long before industry paid much attention to medicine. Industrial medicine actually began with the writings of Ramazinni in the 17th Century. It was he who first noted the occurrence of certain diseases among workers in particular branches of mining and manufacturing. For all practical purposes, however, medicine first became an integral part of industry at about the turn of the century, and some of our industrial medical departments had their origin in the late 1800's.

With the enactment of compensation laws about 1911, more companies called upon the profession of medicine because industry was required by these statutes to furnish medical care to its injured employees. There followed an era of compensation medicine, exemplified by curative, reparative, or reconstructive treatment, largely surgical. The medical officer of the company was most often designated as the chief surgeon and the heavy industries—those with the highest potential traumatic hazards — were the first to employ physicians in this capacity. More recently, industrial medicine began to assume a broader meaning, both to physicians and to the management of industrial organizations.

The realization that exposure to certain toxic materials could produce acute or chronic disability, now generally referred to as occupational diseases, tended to focus attention on the study and control of the work environment. The services of the industrial hygienist were enlisted, and the medical department utilized his findings in conjunction with its work. During the critical manpower shortage which accompanied World War II, the need for employing women, older men, and people with physical handicaps presented new problems. At about the same time, it was found that urgently needed production could be achieved by keeping workers healthy and consequently more efficient. The loss of production through absenteeism was recognized, and efforts were made to reduce that portion of absenteeism which was caused by illness. Industrial medical programs, therefore, rapidly expanded to include such things as industrial psychiatry and health counseling services for employees. Such counseling covered subjects ranging from adequate diet to the healthful use of leisure time. In order to evaluate results and provide useful data to management, systems of medical records were developed and biostatistics became an additional medical department activity. Finally, in order to orient their efforts properly, the most progressive medical departments instituted research projects.

Hence the modern concept of medicine in industry is the application of the principles of modern medicine to the industrial workers, sick or well, supplementing the traditional remedial methods with the newer principles of hygiene, sanitation, engineering, toxicology, and health promotion. It is public health adapted to the employee population. It is not the substitution of complete medical care by the industrial dispensary for medical care of the individual by his private physician.

Current Acceptance of Medical Programs in Industry

Medical programs in industry have proved almost indispensable to many companies all over the country. Why, then, are they not used universally? There are several reasons.

First, management does not always appreciate the value of an industrial medical program. Even many companies which have excellent medical programs

do not fully realize the benefits which they are deriving from them. This is true partially because of the intangible nature of these benefits. Who can measure the increased morale among employees whose health is maintained at the highest possible level? It may be evident, but it is not measurable. We have every right to anticipate that improved morale should result from a well-functioning medical program. It is the medical department which has the best opportunity to counsel that large group of employees who seek its services frequently, but whose real difficulties actually lie in the area of human relations problems. At least half of the people who visit the dispensary are not actually ill, but are disturbed by one of the many abnormalities which we speak of as psychosomatic or maladjustment cases. Many of them will improve if they are merely given the opportunity to talk freely about their situation. The psychiatrists call this "ventilation." By this means, the patient rids himself of an inner conflict which interferes with his safety, efficiency, and general well-being. In this group there are a number with problems concerning the illness of someone in the family and helpful suggestions by the medical personnel often lead promptly to a solution, relieving the worker's mind of a worrisome and debilitating burden.

Reduction of Absenteeism is Tangible Result

These are examples of the intangible benefits of a medical program, but reduction in absenteeism, in labor turnover, and in compensation costs can be measured, and they have been reported as achieved by a good medical program time and time again. In certain companies, the in-plant medical program has reduced absenteeism by 50 per cent, accident frequency by 46 per cent, and occupational disease by over 60 per cent. It is not difficult to translate these savings into dollars and cents. Now, every company is naturally concerned with the financial return on its investment. However, notwithstanding the popular pastime of critizing "big business," a great many companies are truly interested in the welfare of their employees. Perhaps many of them do not realize that, as a result of a good health program, the employee stands to benefit in many ways. If his health is maintained, he loses fewer days of work and consequently less wages, he has better conditions under which to work, and his span of productive years and earning power is lengthened.

A second reason for the less than ideal utilization of medicine by industry is the lack, at least until recently, of physicians qualified to administer first-class industrial programs. The difference between a successful and a mediocre program is very often entirely dependent upon the doctor by whom it is directed.

Doctors Need Special Knowledge of Industry

An industrial physician needs to be more than simply a good doctor. He needs qualities that many good doctors do not have, namely, administrative ability and the faculty of working as a part of an organization. He must understand problems of production, principles of management, and essentials of personnel work. He must have a knowledge of workmen's compensation laws. His professional knowledge must include things which the average practicing physician does not ordinarily concern himself with, such as toxicology, and the recognition of environmental hazards. He must know intimately the industry with which he is identified. If he does not have a detailed knowledge of the individual processes and operations and their hazards and requirements, he cannot perform a good placement examination, or determine what types of work are suitable for specific workers. He must be able to recognize occupational diseases and be familiar with their treatment, and he should know when a condition is not occupational. Above all, he must have a genuine interest in occupational medicine and not pursue it as a sideline, or devote to it brief intervals of time grudgingly spared from a busy private practice.

The third factor which undoubtedly has limited the broader application of medical service in industry is that of cost. On the average, a rather complete and modern medical program will cost industry today between 15 and 30 dollars per employee per year. The lower figure, as you might expect, applies in the larger companies where the department operates more efficiently and the number of employees over which the cost is spread is larger. On this basis, a company with 10,000 employees could expect a fairly complete medical program to cost in the neighborhood of $150,000 per year. Such a sum represents a considerable outlay, and it is not surprising that the management should wish to consider the matter carefully before authorizing so much of an expenditure.

If the medical program were a completely philanthropic gesture, one can see why the decision might be against initiating it. Like all other expenditures, however, that for medical services should be balanced against anticipated returns, at least those which are tangible and measurable. When this is done, we may enter on the credit side of the ledger, so to speak, certain direct savings which should result from the medical program. Let us see what they are. For one thing, the normal absentee rate in some companies is as high as 2 to 6 per cent of the payroll, and it has been shown in numerous instances that a good medical program will reduce this percentage by at least one-fourth, and in some cases one-half. If the total payroll of our mythical company is $40,000,000, and a reduction of only one-fourth is achieved, the annual saving is $200,000. It might be argued that only salaried workers are paid when they are absent from work, but the fact is that absence of hourly workers is paid for in some fashion, whether by compensation or sick benefits or by the indirect losses caused by idle machines and decreased production.

Savings Realized From Decrease In Labor Turn-over

Labor turn-over is another area in which definite and measurable savings can be obtained through a medical program. The actual cost of replacing a man is now somewhere near $100. The National Association of Manufacturers' survey of more than 2000 companies revealed that about 90 per cent of the companies reported reductions in labor turn-over because of their health programs. The average reduction was 27.3 per cent. In a plant employing 10,000 and having a labor turn-over of 20 per cent, the savings would be approximately $55,000 each year. The savings in compensation costs, or premiums, which result from better placement, good and prompt treatment, and prevention of illness and injury are also measurable and can be entered to the credit side of our ledger account. Increased morale, good will, and the other less tangible benefits, we can only guess at. There is one additional benefit which can be approximated, however, and that is the protection of the company's investment in its human resources. To return to the example of this company of 10,000 employees, with the normal percentage of skilled workers and executives, there is represented an investment which is

comparable to the investment in physical assets. Let us assume the average investment in all employees is only $3,000. The total, therefore, is $30,000,000 and a ½ of 1 per cent return on this investment is $150,000—equal to the total cost of the medical program. The achievement of this return is to be expected through improved production per employee, as well as through increasing the total productive life span of many individual employees.

A certain apprehensiveness on the part of industry is still another deterrent to establishing a medical department or to expanding a partial program into a complete and comprehensive one. Some managements fear that starting a program of physical examinations or of industrial hygiene activities will result in a flood of occupational disease claims. Sometimes this apprehension exists on the part of labor, for they fear that physical examinations will result in discharge of some employees or refusal of employment to applicants. To be sure, there is a basis for these fears on both sides as the result of some unfortunate practices in the past. Today, however, it is a backward looking company indeed which utilizes the physical examination as a means either of discharging an employee or refusing employment to an applicant undesirable for reasons other than health. On the other side, a reluctant management can be assured that claims for occupational diseases are not to be avoided by failure to maintain an adequate diagnostic service or industrial hygiene activity, because the workers and their unions are well informed of the potential hazards of any job. They do not wait to be told by the company medical department that their health is being adversely affected. Instead of doing nothing and hoping for the best, it would be a more prudent course for the company to provide a good health service and so prevent adverse affects on health.

Medical Programs Are Difficult for Smaller Plants

A fifth obstacle to a wider adaptation of medicine to industry is the tremendous, and as yet unsolved, problem of providing industrial medical care for the employees of small plants. The magnitude of this problem is immediately apparent when we realize that 98 per cent of all industries are small industries, that is, they have fewer than 500 employees. It is even more striking when one recalls that over two-thirds of all workers are employed in such plants. No doubt a few of these small plants are part of larger organizations which have medical programs; but of the others, less than 1 per cent have a full-time physician and only 6 per cent have a part-time physician. Over half do not have a physician even on an "on call" basis, and this type of service is now recognized by almost everyone to be inadequate. Among the impediments, real or imagined, in the extension of medical service to the employees of these small plants, are such things as the belief of management that they do not need a medical program because they pay the premium on their compensation insurance policy and their responsibility ends there. Some of them believe that they can get any advice they need from their insurance carrier. Wide geographical separation of plants makes it difficult for several small industries to set up a combined or cooperative program, and a certain amount of competition between the plants enhances this difficulty. Sometimes the objections of medical societies or individual doctors will prevent a physician from accepting such an appointment.

Several Working Plans Are Now In Use

Nevertheless, at least a half dozen successful plans bear witness to the fact that medical service can be provided in the smaller plants and moreover they have demonstrated the value of the service to these industries. In one such plan a physician operates the health service as his full-time occupation, obtaining several small plants as clients. He contracts to spend a fixed amount of time in each plant and provides each with the basic medical services, such as preplacement examinations, periodic examinations, plant inspections, health counseling, treatment of injuries, and analysis of records. In a second type of plan, several industries cooperate to employ a physician to render these same services for them on a pro-rata basis. They may each establish an intra-mural dispensary, or, if they are close to each other, they may have a common, centrally-located clinic.

A third, and slightly different, plan is contemplated in Pittsburgh, Pennsylvania, where the Department of Occupational Health in the Graduate School of Public Health of the University of Pittsburgh has interested the Smaller Manufacturers' Council in the problem. The plan is to have the Smaller Manufacturers' Council select an area in which a cooperative clinic could function to the advantage of several small plants. This clinic would be under the supervision of the Department, and its facilities would be used for the in-plant training of postgraduate students in occupational medicine.

Union Operates Its Own Health Center

Still another answer to this question has already been found by a number of unions, notably the International Ladies' Garment Workers' Union, which has operated a health center for its members for many years. Practically all the members of this union work in very small plants. Variations of this plan have more recently been initiated by the Restaurant Workers' Union and partial plans are operated by the United Mine Workers and the American Federation of Machinists. There is a real lesson in this for industry, because it should be obvious that if health service is not provided by industry, it will be initiated by the unions, and industry will pay for it in the long run. There is perhaps no ideal plan for the small plants because of the various factors which modify each local problem. It is much more difficult to solve than the similar problem for the larger companies.

We have by this time had sufficient experience to know that a reasonably adequate medical program for the large industries should include certain basic activities.

Fundamental to the whole medical program, for instance, is the physical examination. It varies according to the particular objective which is to be accomplished and is designated by a term descriptive of its purpose. There is the *preplacement* examination, formerly called the *preemployment* examination; the *periodic* examination, done at intervals as the name implies; the *transfer* examination; and in some cases, the *termination* or *severance* examination. The old term *preemployment examination* was unsatisfactory because it suggested that the purpose was to exclude any applicant who was not physically perfect. Unfortunately, this was the case in many instances, yet the examination was actually a search for certain rejectable defects. It is now generally recognized that a more desirable procedure is to examine the individual for his capabilities rather than his disabilities and to place him on a job for which he is best suited mentally and physically.

The ideal has not yet been reached in this respect, because it is still necessary for the employer to protect himself against claims for compensation for disabilities which existed prior to employment.

It would be the height of superfluity to state that many thousands of dollars have been paid in compensation for preexisting hernias, back conditions, and so forth. The sometimes fantastic decisions allowing compensation on the theory of aggravation of heart disease, diabetes, visual disturbances, and other longstanding disabilities have made this situation more difficult. Nevertheless, much progress has been made and our examinations today are more nearly preplacement examinations than they were even a few years ago. The second-injury funds have helped to some extent and the fact that a complete record of preexisting conditions is made at the time of examination is also helpful. The absolute necessity for such records renders it imperative that the physical examination be complete and that the history be very detailed, both as to past medical conditions and as to previous occupations. With this point of view, one can see why the examining doctor should know the exposures inherent in every job, and, particularly, the physical demands of the job which he is examining the applicant.

Periodic examinations include the regular, usually yearly, health audits of executives, supervisors, or other employees, as well as those examinations done at more frequent intervals on workers who have possible exposure to toxic substances.

Examination Recommended When Job is Changed

Examination when transfer from one job to another is contemplated is a highly desirable procedure. With careful placement, workers may be accepted for one job even though they may be unfit for others. Similarly, the individual who showed no abnormalities when examined prior to employment several years ago may, as the result of aging, illness, or injury since employment, have acquired some physical defects. The wisdom of reevaluation by the medical department in the light of the demands of the new job is obvious.

Another type of examination often performed by the medical department is that done when the employee returns to work after illness or injury. Care should be taken to determine if the worker has recovered sufficiently to meet the demands of his own job, and to make sure that he will not endanger his fellow workers.

Examinations upon termination of employment, sometimes called severance examinations, are often included in the examination program. They constitute a service to the worker and serve to reassure him that his health has not been impaired as the result of his employment. Frequently they prove to be of tremendous value to the employer when a claim is filed at some future time.

Some Other Activities of Industrial Medicine

Important as it is, the examination is only one of the many activities of the medical department in industry. Medical and surgical emergencies require that there be provision for prompt and adequate treatment. Referral of cases to specialists, when necessary, is of the utmost importance in protecting the interests of the company, as well as in reducing the suffering and hastening the recovery of the injured. No medical service is complete without ample attention to rehabilitation after illness or injury. Many total-permanent disabilities have been so adjudicated in the past because insufficient measures were taken to rehabilitate them and return them to work. We should not depend upon the surgeon or the hospital to carry rehabilitation to completion. The industrial medical department should be equipped to give the patient, upon his return from the hospital, active rehabilitative therapy, including an early return to some type of work, because this, after all, is the best rehabilitative measure. Such a program can be paid for, undoubtedly, out of the savings in compensation costs.

Industrial hygiene, or environmental control, activities constitute another phase of the work of the medical department. Reference has been made several times to the need for the doctor to know the various jobs. In order to do this, he must make frequent trips through the plant so that he may observe the demands of each job and any inherent environmental hazards.

Health counseling and educational programs constitute an important and continuing portion of the business of the medical department. Group counseling can be employed in such subjects as nutrition, diet, or personal hygiene. More often it is personal individual instruction, usually at the time the employee visits the medical department for treatment or examination. Various other media such as posters, magazine articles, or films have been used. However, the need for education is not confined to the employees. Frequently the physician finds it necessary to educate management.

Psychiatric counseling, personality evaluation, and special health conservation programs, such as diabetes detection, chest x-ray programs, and vision tests, are some of the other projects of the medical department. Keeping records, not only for the purpose of defending compensation claims, but for analysis, to discover the cause and location of accidents, or the epidemiology of certain occupational diseases, constitutes an additional important activity.

It is obvious from the mere recital of these activities that the medical department has a close association with all the other departments of the company. Possibly its closest association is with the personnel, safety, and compensation departments. It needs the cooperation of every other segment if it is to do a good job, and if it does a good job it can be of tremendous help to all of them. It has been stated that 80 per cent of accidents are due to human failures. How important it is, then, to the safety program and to the compensation department, that the medical department is in a position to detect failing vision, failing hearing, or a high blood pressure which could result in dizzy spells or a cerebral hemorrhage.

Sound Medical Programs To Be Part of Industry's Future

While industrial medicine has made tremendous progress in recent years, we must acknowledge that medical programs in industry have not, up to now, realized their fullest potential. Many companies, particularly the smaller pants, do not have a medical program at all. In others, although there is a medical program, it is regarded more or less as a philanthropy of management, or at least as an operating expense to be kept as close as possible to the irreducible minimum. Nevertheless, certainly the future will bring a recognition by industry that the company medical department is a constructive, productive, and positive part of industrial organization. It will be properly seen as a member of the production team and its accomplishments in maintaining the human resources of the company will be recognized to be good business just as is the maintenance of costly equipment. END

An Important Management Help: A Planned Program for Personnel Quality Control

by Thomas J. Wright

Any management man knows how difficult it is to control the quality of a company's product. Far more difficult is the slippery subject of personnel quality control. Here is an article by an author whose career has been given to this important area. He tells how a personnel quality control program can be set up, what it should cover, how to make it function, what departments within a company should handle various parts, and explains how such an overall program can be developed for a company so that in time it creates a staff of competent, dependable employees.

THE control of quality is a most important factor in the manufacture of material products; so is quality control important with respect to the human beings who are engaged in the various activities involved in the manufacturing process and in the related processes of design, inspection, sales, and so forth. The effectiveness of the techniques developed for controlling the quality of the products can be minimized or increased to a considerable extent depending upon the program which has been developed for personnel quality control.

The objective of this article, is to indicate how a program for personnel quality control functions, and how the techniques developed for the control of product quality may be applied to the personnel field. The steps to be covered involve the following items: job specification, screening techniques, induction to company, training on the job, job performance review, and organization to accomplish the foregoing.

The examples and forms included in this paper are drawn for the most part from a large and progressive carpet manufacturing company. This company, employing some 10,000 production and maintenance, technical, sales, clerical and sales personnel has made considerable progress during recent years in the development and application of personnel quality control.

The Job Specification serves the same purpose with respect to the control of the the quality of personnel that the Material Specification serves insofar as material quality control is concerned. That is, it specifies the duties to be performed under specified working conditions by the incumbent of a specific job along with the related responsibilities and lists the characteristics such as previous formal education, specialized skills, one-the-job training, job test scores, and so forth, which the incumbent must measure up to in order to perform the job satisfactorily.

The Personnel Requisition serves the same purpose with respect to the recruiting of the proper personnel for a job that the Purchase Order serves when material supplies are involved. Often a copy of the Job Specification is attached or, if not, a digest of the information contained thereon is used. In addition, the number of persons required, the date required, location of work, and starting rate are included plus provision for the necessary approvals which must be obtained before recruiting starts. Copies of the Personnel Requisition usually are sent to the Payroll, Personnel and Requisitioning departments after the selection has been made.

Just as all material shipped into a well-managed plant is inspected before being accepted, so must new personnel be subjected to a similar procedure. This personnel acceptance inspection usually consists of the following parts: interview, tests, medical examination and references.

Screening, Interviewing and Other Testing Techniques

The job applicant usually is requested to fill out an Application for Employment, thereby furnishing information regarding formal education, special training, work experience, age, marital status, etc., on the basis of which the initial screening may be made to determine whether he meets the job specification requirements sufficiently to warrant an interview. If the job is of a technical or artistic nature, the applicant is often required to furnish samples of his work when filing his application. This is similar to the manufacturer who is re-

quired to furnish samples of his product when he is trying to obtain an order either for the first time or for a large quantity from a purchaser.

If a review of the application by the interviewer indicates that the applicant apparently possesses the necessary job qualifications, he is given an interview, during which any required personnel tests are given. During the interview an attempt is made to analyze the applicant's personal traits, appearance, ambitions, etc., to determine whether he will "fit" into the company's working organization, assuming that he has the other necessary qualifications.

In addition to the pre-employment tests the applicant is usually required to serve a probationary period of from one week to several months, depending on the nature of the job, during which time he works under close observation to determine whether he can perform the required duties.

In order to check on the accuracy of the job applicant's statements regarding his previous education and experience, reference letters are sent by the employer to the applicant's previous employers and heads of schools which he attended. The replies to these letters, particularly from the previous employers, often contains little other than recorded information regarding length of employment and job classification. Of course, if the applicant's record was a very good one and his former employer is desirous of helping him make a change, the reply may contain favorable comments.

An important step in the control of the quality of personnel which most of the larger employers are utilizing is the pre-employment and periodic medical examination. The former is usually given at the conclusion of the employment interview and personnel testing procedure.

Physically Handicapped Often Do Better Job

While there are a number of diseases which immediately disqualify a person for employment, this is not true with respect to physical handicaps such as the loss of a leg, an eye, defective hearing, etc. There are many jobs on which a handicapped person can often perform better than one who has all of his faculties. It is the duty of the medical department to fit the person to the job from a physical standpoint while at the same time using discretion in providing for future replacements in the better jobs by selecting a high percentage of fully-qualified (physically) employees.

The practice of giving periodic physical examinations to detect any incipient diseases is becoming more popular, particularly in companies which are large enough to support a full-time medical staff with modern diagnostic equipment.

It has been found from experience that the quality of a company's personnel is improved if, before the new employee is actually assigned to a specific job, he is given an opportunity of orienting himself by learning something about the company's general personnel and other policies, its products, organization and manufacturing and distributing facilities. This indoctrination is usually a responsibility of the Personnel Department's Training Division and is accomplished by the distribution of pamphlets and handbooks, talks by selected management personnel and visits to company plants and showrooms whenever feasible.

The induction program, in addition to giving the new employee a bird's-eye view of the company of which he is becoming a part also provides an opportunity of providing him with first-hand information and answers to questions instead of waiting until he is faced with a situation requiring an answer which may be given him by someone who is not qualified to give him the correct information.

Various Methods of Training While On The Job

Years ago, before industrial training programs reached their present stature, the employee was assigned to a job, given a few brief instructions by the foreman and then was left to shift for himself. When he encountered a problem which made it impossible for him to proceed, he asked his foreman for assistance, or, if the foreman was not available—as was often the case—turned to a fellow-worker for aid. While in either case there was a considerable loss of time involved, the latter practice was particularly bad since the new employee picked up many of the poor work habits which the older employee had developed over the years.

Today most progressive companies provide for a training period ranging from a day to several weeks in length, depending upon the job difficulty, during which the new employee receives instruction in the proper method of doing the job from either an experienced operator-trainer or a fulltime trainer. The former is to be preferred when the number of new employees fluctuates because the trainer when not training is a regular operator, thus keeping the overhead cost down. This on-the-job training is particularly important when the employee is working under an incentive plan or operating an expensive piece of machinery where standard production must be reached within a short period in order to bring the employee's earnings up to par and keep the overhead cost per unit within proper limits.

From a quality-control standpoint, the learning of correct work habits and the proper steps to take in performing the job, as well as how to avoid the making of scrap, is a most important factor in so far as personnel is concerned. This training must be repeated in many cases when a periodical review indicates that the employee has deviated from the procedures which he was taught to follow originally.

Individual Performance is Evaluated Regularly

The principles of quality control are followed with respect to personnel in the technique of job performance review more so than in any of the other techniques covered by this paper with the possible exception of employee testing. Just as samples of the manufactured products are inspected by means of gauges or other measuring instruments, at intervals to determine whether the process is holding its own with respect to the specified quality limits, so is the performance of the individuals who are engaged in the various operations evaluated at regular intervals for similar reasons. This review of personnel job performance is commonly referred to as merit rating, merit review, performance review, and so forth. While in many respects, as with other phases of quality control, this technique is still in its infancy, it is found today in most of the progressive companies.

Job performance review, as this technique will be referred to in this article, serves the following three major purposes: (1) To provide an indication of merited salary increases; (2) To indicate in what areas additional training is required; and (3) To indicate which employees are promotional prospects.

While the principle applies to jobs in all levels of the organization, in practice the incumbents of "white collar" jobs have their performance reviewed in more companies than do those of manual or "blue collar" jobs. This is probably due to a considerable extent to the

fact that manual workers are usually paid on a piece rate basis or on a single day-rate basis as compared with the salary ranges (from minimum to maximum) which exist for "white collar jobs." In addition, the fact that today a large proportion of the manual workers in large manufacturing and service companies are unionized has tended to limit the application of the job performance review technique in so far as this type of employee is concerned, with the result that seniority has replaced ability as the principal criterion of promotability in many companies.

Immediate Superior Is Best Person to Review Employee's Job

An employee's job performance is usually reviewed by his immediate supervisor, who is the person best qualified to do this. This review is usually checked by the person to whom the supervisor reports in order to obtain at least two separate points of view. This practice may be compared to the cheking of the inspectors' work by the check inspector in so far as manufactured products are concerned.

Just as the inspectors in the plant are furnished with gauges and measuring instruments to check the quality of the manufactured product, the job performance reviewers, or raters as they are often referred to, are furnished with rating forms to assist them in determining to what extent the employees under their direction are fulfilling the requirements of their jobs. It should be borne in mind that such forms should be tailor-made for the particular company, or even subdivision of a company, in which they are to be used. Otherwise, the situation of trying to fit the round peg into the square hole arises and the technique of merit is blamed for the poor results instead of the unskilled technicians.

The training of the raters is a must if valid judgments of employees' performance are to obtained. This training must be done at the time the rater is first introduced to the technique and periodically thereafter, preferably immediately preceding or following the time at which the ratings are made. Regardless of how good the rating form is, it is the raters who in the last analysis make or break the performance review program.

Insofar as the timing of ratings is concerned, there is no hard and fast policy which applies under all circumstances. For example, it is often found desirable to rate all of the members of a large clerical group at the same time in order to take advantage of the opportunity for comparing the ratings of personnel performing the same jobs, that is, typists, billers, telephone operators, thus afforded. On the other hand, it is usually found more desirable to rate the performance of executive personnel on the anniversary date of their employment in their present positions in view of the fact that it is very difficult to compare their jobs with each other.

With respect to the scoring of personnel performance reviews, the same differences of opinion exist among the "experts" with respect to numerical versus nonnumerical or profile scoring as exists in the related technique of job evaluation. Suffice to say that, as Dr. Juan points out under Systems of Rating Quality of Product in his book *Management of Inspection and Quality Control*, committees will often spend long hours debating such points whereas this item is only a minor one of the many decisions which must be made in any quality rating plan. It has been the writer's experience in working with both types of systems in personnel rating that when a numerical scoring system is used, there is a tendency for the raters and ratees to concentrate on the overall numerical "score" and to neglect the individual factors score which indicates the ratee's strength and weakness—this is particularly true where the ratee's salary depends upon the result of the performance review.

Just as it is important that when inspectors find a defective product being manufactured they call it to the attention of the operators, so should the rater discuss the ratings of his employees with them as soon as they have been returned to him by the reviewer. This discussion of the ratings between the rater and ratee is one of the most important, if not *the* most important, phases of the performance review program and is probably the one which is often handled most ineffectually, principally, perhaps, because of the difficulty of checking it. As a matter of fact, many companies which have performance review plans in effect make no provision for the discussion of the ratings with the individual rated.

How the Employees' Rating Reviews Should Be Analyzed; By Whom

After the rating forms have been returned to a central source, usually the Personnel Department, when the reviews with the employees rated have been completed, the results of the ratings are analyzed, for several reasons. In the first place, a chart of overall ratings is prepared to show the relationship between the ratings of employees on similar or related jobs. The degree of agreement between the actual distribution of the rating results and the well-known "bell" curve of normal distribution is a measure of the validity of the rating scales or forms. In most cases in actual practice, perfect agreement is not found because of distortions of the samples due to employment screening, training, smallness of groups, etc.

Similar charts of each rater's results are often prepared where the number of employees involved is sufficiently great in order to determine whether there is a reasonable amount of distinction among the employees' performance indicated. A definite slew to the right usually indicates a high rater while one to the left indicates the opposite, in either of which case further training of the rater is indicated.

Charts Used in Analysis of Performance Factors

In addition to charts of the over-all ratings, similar charts are usually prepared for the ratings on each separate performance factor, such as Accuracy, Cooperation, Job Knowledge, etc., in order to determine whether they are furnishing significant results. Such an analysis of factors provided significant data when a performance review form for supervisory jobs was developed. In this case, an analysis of the rating results (numerical scores from weighted factors) obtained in two ratings of several hundred supervisors showed that a 60-factor form could be reduced to eight factors and eight questions without reducing the effectiveness of the rating, by eliminating insignificant factors and combining others which differed to a very slight extent.

Whereas a centralized group of trained quality control technicians are needed to develop, coordinate, and analyze results of material quality control programs, a similar group of personnel technicians perform the same function in the field of personnel administration. In the latter case, however, the cooperation of the line organization is probably even more important in order to assure the success of the program than it is in the former.

While practically every person in the Personnel Department in a position of any importance has some responsibility

for personnel quality control, the actual development and administration of the techniques described in the foregoing sections of this paper are usually the responsibility of the following groups: Employment, Medical, Training, and Wage and Salary.

Obviously, the screening techniques are carried out by the employment group along with induction whereas the Medical group handles medical examinations and the Training group handles training. Because of the fact that the results of a job performance review are usually used as a criterion in connection with the granting of wage increases, the responsibility for the administration of these reviews is often included in the Wage and Salary group. However, because of the close relationship between this technique and those of testing, training, placement, etc., the groups handling these functions review the results of the reviews and collaborate in any changes that are made.

The foregoing sections of this article dealt primarily with a comparison between quality control with respect to manufactured products and with respect to personnel and with the techniques used for achieving the latter. It is evident, therefore, that quality control principles are applicable in many fields.

One important factor which should be kept uppermost in mind by those engaged in any phase of personnel quality control or by those contemplating the initiating of any of the techniques involved is that they are dealing with human beings rather than with machines or other inanimate objects. Human nature being what it is, there are no two persons exactly alike and their differences must be recognized much more so than minor differences in material things. Just as quality-mindedness must be instilled in the minds of all employees of a company, regardless of position, so must human-relations-mindedness be similarly instilled.

Much of the responsibility for developing this attitude insofar as personnel quality control is concerned, rests with the company's Personnel Department since it is in a position to exert the greatest single influence on the company's personnel in this respect. If a company whose top management is really human-relations minded develops a competent staff of personnel technicians and gives them the necessary authority commensurable with their responsibility, results in the form of improved quality of personnel should be evident in a relatively short time. END

Authors In This Issue...

FRANK LANG, who wrote the article on the factors involved in applying research to the operations of a business (page 5), has been interested in the application of scientific principles to management problems for most of his professional career. He organized the Research Department for the Association of Casualty and Surety Companies in 1944, has since directed its activities in assembling information anent increase of efficiency generally, in particular the reduction of costs. Dr. Lang has represented the casualty insurance business before government agencies and on cooperative projects with such groups as: Committee on Graduation of Expense by Size of Risk, Accident and Health Insurance Committee of the United States Chamber of Commerce.

HENRY P. DUTTON, the 1945 winner of the SAM Taylor Key, is also the author of several management books. One of management's elder statesmen, his succinct history of scientific management (page 9) is the result not only of much research and collaboration with a powerfully-equipped committee, but one of the end-products of a career devoted to the fundamental philosophies projected by Frederick W. Taylor. Mr. Dutton has been active in the management field since 1914.

DANIEL C. BRAUN, M.D., has been Medical Director of the Industrial Hygiene Foundation at Pittsburgh's famed Mellon Institute since 1952. Dr. Braun is also on the faculty of the University of Pittsburgh's Graduate School of Public Health as a lecturer on occupational health, and in the School of Medicine as lecturer on industrial hygiene. He was adviser to the Westinghouse Electric Corporation supervisory health program, consultant in occupational medicine to various other companies from 1950 until he joined the Foundation staff. His article (page 13) on the place of medical departments in the management picture, is the result of this experience, as well as of his association with the late Dr. Grover C. Weil, one of the pioneers in industrial medicine.

THOMAS J. WRIGHT, whose article on controlling personnel quality appears here (page 17), brings to his authorship a varied experience with personnel control problems both in large American firms and the United States Navy. He was formerly Personnel Manager at Bigelow-Sanford Carpet Company, a post reporting to the vice-president for Personnel. At the Consolidated Edison Company of New York, Mr. Wright was Wage and Salary Manager, assisted in the merger of the thirteen affiliated electric, gas, and steam companies that form that company. He is now a counsel in Industrial Relations and Industrial Engineering.

JERVIS J. BABB, president and director of Lever Brothers since 1950, was previously executive vice-president and a director of S. C. Johnson and Son, Inc., Racine, Wisconsin. He has been associated with the School of Business Research at the Harvard Business School and with the New England Council. In addition to the above he is a board member of the Grocery Manufacturers of America and the Committee for Economic Development, and a member of the Executive Council of the Harvard Business School Association. A sought-after speaker, he belongs to the Economic Club of New York, the Newcomen Society, the University Club and others.

LESLIE D. CATLIN, author of the article on the present and future possibilities of industrial engineering (page 24), entered the industrial field in 1923. In 1931 he joined the staff of a leading consulting engineer for whom he completed assignments both here and abroad. In 1936 he formed his own company of management consultants which he continued for six years. This consulting firm was dissolved at the beginning of World War II, at which time Mr. Catlin became an executive with a large airplane company, and later was vice-president in charge of Manufacturing of an electrical products company. He is now an Associate of Joseph M. Cook and Staff.

The Modern Business Republic: Eleven Principles Are Emerging As A Business Bill of Rights

by Jervis J. Babb

Gone is the feudal concept that first dominated the business world, this author says. Today's business is actually run by its employees. A business cannot survive, the author shrewdly points out, if the majority of its employees differ with its fundamental policies and practices. This fact is the product of a quiet revolution in which feudalism gave way to a form of business republic. Out of the change some basic ideas are coming clear—eleven of them, the factors that are inevitably shaping the business organization and the management ideas of today and tomorrow.

EVEN the most casual observation of human behavior shows that there is a basic urge in all of use to attain a measure of happiness. This is true whether man spends his few fleeting moments on earth as a beachcomber, a philosopher, an artist, a farmer, a civil servant, or a citizen of the business community.

And yet one of the strongest forces at work today is the attempt to divide man against himself, to breed discontent, distrust and disunity into class antagonism. The symptoms of these divisive movements are frequently social, racial, religious and political in character. But the basic driving wedge between peoples is economic.

The development of our modern *industrial* society is familiar to all of you. Today we are only too aware of the faults the industrial revolution brought with it; the booms and depressions, with their great waves of unemployment; the inability of men to protect themselves and their families against the disappearance of income when confronted with illness, death, old age; or just the sign at the factory gate "No work today"; and the loss of personal pride when the man was separated from the product being made and even the man he worked for.

People everywhere want to improve the circumstances under which they live. All over this world they want better food, clothing and shelter; more protection against the hazards of unemployment and old age; proper care should they become sick; security for their family should they die; wider opportunities for education, and for growth and development; freedom to do the right things in life; and an improved chance to obtain comfort of both mind and body.

In those countries which live in liberty, these aims and aspirations not only are highly developed and vocal, but the people have it in their power to do something about satisfying them—and they intend to do it.

Politicians Have Taken The Initiative

In our own country we have witnessed a determined effort during the last two decades to realize these aims by political action—to write into the law the social reforms which the people as a whole are striving for. The fact that people turned to politics to satisfy aspirations which are largely economic in nature shows that the need is strong, and that it has not fully been met by business.

Unfortunately an impression has been built up over the years that many businessmen are sefishly opposed or indifferent to social gains, with the result that the politician has been given a wide open opportunity to step in as the champion of the people's cause. In this role he has enjoyed the support of many in the fields of education, religion and social science who recognize the people's wants, and believe any action which aims at satisfy them is good and justifiable.

The businessman, unlike the politician, is naturally cautious about promising more than he can deliver, but he certainly is no opponent of social progress.

A few leaders in business have boldly planned their operations with the satisfaction of human aspirations as the major goal. The fact that there have not been enough of them to offset the maneuvers of the politician has not resulted, in my opinion, from any lack of fundamental desire to help people. If this were so, where would all the educa-

tional institutions, the hospitals, and the great charity drives have obtained their funds. Rather I thing it stems from our having thought too little about the causes and effects of human motivation.

It seems to me that the main reason we haven't is that most of us have not yet understood the *economics of happiness*. To be sure, we all know that a happy man or woman will do more work than an unhappy person. But somehow or other, we have difficulty relating that fact to our profits. Rather we tend to think of the things we do to improve the lot of our people as expenses with little return. Perhaps because we do, we get less than adequate return from the expenditure. We tend to call such things "fringe benefits," and thereby relegate them to the unimportant.

Understanding of Economic Happiness Is Improving

Fortunately, our understanding of the economics of happiness is improving, and not just from union or political pressures, either. It stems from another phenomenon of the 20th Century which I choose to call the "Business Revolution."

Business has been passing from individual ownership to diffused ownership, aggregations of more or less anonymous capital provided by thousands of individuals.

The day of the rugged individualist is gone. The old time captain of industry who built and managed his enterprise almost single-handed and who watched over those he employed with paternalistic care, according to his lights, and brooked no interference in the process is an anachronism today. He is extremely rare and dying out at a fast rate.

The management of business has left the hands of its owners and come into the hands of the professional manager, an employee himself.

Perhaps the strangest thing about the professional manager as we know him today is that he is not working primarily to get rich. Not only do the tax laws prevent it, but even if they didn't, he would probably find it embarrassing by today's social standards. He is primarily driven by three things. The most obvious, of course, is the desire to do a good job, and be recognized for it. Second, and more important, is the desire to be helpful to others. This is in his blood. As you all well know, few men rise through the ranks of modern business organizations unless they are unusually adept at helping the men they work for, the men alongside them, and the men who work for them.

The third driving force is simply self-preservation. Unless he can provide a reasonable return on their investment to the stockholders, unless he can provide the consumer better products at lower prices, and unless he can enable employees to improve their lot, he will not long remain a manager.

It is not enough for him to be an umpire and adjudicate fairly the right of these three groups. The only way he can satisfy the demands of all three for bigger pieces of pie is to make sure the pie keeps getting bigger. Herein lies the real strength of our defense against Socialism.

With these changes from individual to diffused ownership and owner management to professional management has come a startling revolution in the economic, social and political character of the business corporation. No longer is its main purpose to protect the stockholders from losing more than their invested capital. In fact, business enterprise is *not* being run today for the sole benefit of the owners.

The modern business corporation has become a cooperative way of life for large numbers of people. In effect what has happened is that many individuals with varying amounts of available capital and many others with varying skills and experience and energy have pooled their resources and abilities in a joint enterprise, in the belief that they will get out of their combined efforts more than anyone could get from his own.

The modern business organization *is* a way of life. It is the source from which three out of four people in this country must draw a livelihood for themselves and their families, and to which they must look for not only the economic but even much of the mental and social satisfactions they need to give their lives fullness and meaning.

Idea of Business Republic Stems From Five Practical Reasons

Perhaps the most drastic change that the business revolution is causing in our business society is in the form and spirit of its government. In typically American fashion, the old fashioned dictatorship or feudal concept of governing the business part of people's lives has been largely replaced by the new "Business Republic."

Now you may say that the government of a business enterprise is not really a republic because those who make its laws and administer them are not elected directly by its citizens, meaning its stockholders *and* its employees. Technically you are correct, since the voting franchise is limited to the stockholders. But from a practical operating viewpoint, a business enterprise is run by a republican form of government because:

1) The right to govern is seldom any longer hereditary.

2) Even though the stockholders elect the directors, and the directors the officers, management governs only through the consent of all the governed, *including* the employees who are not stockholders. Perhaps this is easiest to visualize when one thinks about negotiating with a union. But no management can long endure in these days if any substantial group of employees is opposed to its policies and methods.

3) Management is usually chosen from the ranks of employees, and is usually able to achieve that position only with the help, and yes, consent of other employees. No one can kill advancement in business easier or faster than one's associates.

4) More and more employees are enlarging their stake in business, both directly through purchase of securities, and indirectly through their beneficial interest in pension and profit sharing funds.

5) Employees have certain basic rights given to them by the constitution of the United States, by law, by negotiated agreement with management, and to some extent, freely given by company policy.

Belief in Individual is Basic American Creed

If there is any one thing that sets the republics of the free world apart from the dictatorships, it is their belief in the inalienable rights of the individual. I will not deny that natural resources developed by spiritually hungry people who dared to venture from the security of their homelands to the risky frontiers of a new country had a lot to do with the development of America. That we have had within our country the greatest release of human ingenuity and energy in the world's history, however, was only possible because Americans knew what their rights were, generally agreed on them, felt secure in them, and worked together to uphold them. They were clearly set forth in the Constitution of the United States of America.

Of all the changes that are being

wrought in our economic society by the business revolution, the most promising from the standpoint of both future profits and future happiness of the people is the growing awareness that individuals have inalienable rights as citizens of the Business Republic.

Most of these rights are still in the process of formulation. They are still being defined and redefined. Few of them are really understood or agreed to by many managements or many employees, let alone by both. Only a handful have been reduced to writing in any statement of principles, Constitution if you please, to serve as the code of business government. So employees cannot yet feel secure in their rights. But all this is coming, and very fast too.

Eleven Principles Make Up A Business Bill of Rights

Let me list for you some of the principles that seem t be gradually emerging and clarifying themselves into a Bill of Rights for the citizens of the Business Republic.

1. *The right of freedom of choice*—This presupposes that the citizen of the business republic is not putting in a term of involuntary servitude—that not only can he be separated from his job for just cause, but that he has the inalienable right to leave it if he so desires. It also means freedom to work out his own destiny in business with the help of, not in spite of, the business.

2. *The right to safe and healthful working conditions*—No one, I am sure, will question the obligation of management to protect people against occupational hazards.

3. *The right to earn a decent living*—This it seems to me, is almost too obvious to mention. Although rare is the man who thinks he is being paid enough, every study of the motivations of workers shows that the pay problem ranks well down the list. By and large American business is paying good wages by any standard.

4. *The right to equitable compensation for the work he performs*—This is not a question of amount of pay, but fairness of pay. The employee has a right to expect that his salary or wage is reasonable close to what others are getting in the business for jobs of equal difficulty and complexity. He also has the right to expect that his pay will not be out of line with what other businesses are paying for the same kind of work.

5. *The right to share in the prosperity of the business.*—This is not the time to discuss the advantages and disadvantages of so-called profit sharing. But if we accept the premise that the business republic is a way of life for people, who hope to do better cooperatively than alone, then we must also accept the principle that the better the team does, the more the individual benefits.

6. *The right to earn security*—Since employees usually raise families, with all the hopes, aspirations and problems which that entails—they are entitled to have the opportunity to earn reasonable protection against the financial hazards of illness, accident, death or old age. Minimizing freedom from worry about uncontrollable misfortunes is like removing a millstone from the necks of all of us, even managers.

7. *The right to equal opportunity to progress* — This does not mean that everyone in the organization has an equal chance to be president. But to the full limit of his aptitudes, knowledge and effort he will be given fair and thorough consideration for advancement. It means that working up through the ranks is not just giving lip service to a time-honored tradition, but that men are encouraged and trained and helped to do so. And it also means that management makes every effort to use people to the limits of their capacity, but not above it or very far behind it.

8. *The right to be productive* — This presupposes confident, intelligent, friendly, aggressive leadership, furnishing a creative climate in the business which stimulates people to want to contribute to it, encourages them to use their heads and not just their backs and nimble fingers, supplies the best of tools to make increased productivity possible, and is generous in giving credit where due.

9. *The right to understand* — Every citizen of the business republic is entitled to know the broad goals of the organization and the reasons for them. He is entitled to know the score of the game and how the business is progressing, and to hope for something better for himself if he helps in that progress. He is entitled to know not only what part he is exepected to play in the whole scheme, but how that part fits in with the whole, and why he is asked to do his specific assignments. He is entitled to learn all those things about the business which will help him contribute more to it.

10. *The right to freedom of speech*—In business, as in all other phases of American life, the employee has a right to a voice in matters affecting him and his work. He is entitled to criticize and to advance ideas, and have both his grievances and his ideas considered fairly and decided on their merit by people who are competent to judge. This means, of course, that he must have free access to his superiors.

11. *The right to belong*—Man is by nature gregarious. His largest area of personal satisfaction comes from his relationships with other people. The citizen of the Business Republic has a right to good close group relationships with his fellow workers, both on and off the job. He has the right to join others, either casually or in organizations of his choice for social purposes, for mutual protection or assistance, or for collective bargaining with management. And above everything else, he has the right to be considered on a par with every other employee of the business when it comes to his importance in the whole scheme. To be sure one job may require much less talent or experience or knowledge or skill than another. But it is not one iota less important. The fact that he is on the job presupposes that he is a *required* member of the cooperative community, of the Business Republic.

Owners, Management, Consumers Have Rights Too

Those then are some of the basic rights of employees that are becoming clearer as the Business Republic matures. Others have rights, too, which must be respected if the enterprise is to prosper. Owners are entitled to a reasonable return on a growing value of their investment. Management is entitled to manage without undue interference or harassment. Consumers are entitled to share in the fruits of improved performance through better values on the products they buy. The strength of this country lies in freedom of choice in the market place, and millions of consumers daily cast their ballots automatically for or against this or that business.

When the basic rights of the citizens of the Business Republics of this country are more clearly defined and understood, and embodied in their written policies, and carried out consistently in management's daily decisions and act so that all may have confidence in them, then the business revolution will be complete. When this will be, I would not hazard a guess. But it will not take many years at our present rate of progress, and our increasing understanding of the economics of happiness. **END**

Management, Other Career Opportunities In Industrial Engineering, Present and Future

by Leslie D. Catlin

Industrial engineering is sometimes called a hybrid development of older branches of engineering. Increased demands of a wide variety of business enterprises, with their need for specialized tools for management, have fostered its growth. The nature and use of industrial engineering's tools themselves are uncertain, but there can be no longer any doubt that the profession is growing and broadening. This author outlines the past development of the field, tells what the industrial engineer of today must know, and indicates the direction this important profession may take.

IT IS interesting as a backdrop for considering the opportunities in industrial engineering today to look at the development which has led to current concepts and practices.

Through the early 1900s and to the 1920s industrial engineers were, for the most part, tagged as efficiency experts or efficiency engineers. In the 1920s industrial engineering began to be more formally established. It was in this period that Standards Departments were established. These departments had to do mainly with the making of time studies, the establishment of production standards and the installation or maintenance of an incentive system. Such departments were generally line rather than staff, and they were too far down in the management echelons to command desirable prestige. Their functions were also narrow in concept.

Industrial Engineer Status is Now Accepted

Through the 1930s and 1940s many companies began to develop greater use of industrial engineering principles and practices. It was during these same years also that many colleges and universities established courses in industrial engineering in some form or other. World War II and the years thereafter have seen a further development of this science. We now see common acceptance and use of the terms Industrial Engineering Department and Chief Industrial Engineer.

Engineer Helps Achieve Basic Aim of Management

It seems appropriate here to consider the broad objectives that have led to current concepts of the responsibilities of industrial engineering. In doing this, we must first state the objectives which underlie every business enterprise. These objectives can be described as consistently making the most effective use of the entire resources of an enterprise for the benefit of its owners, employees, customers, and the public.

Industrial engineering has been playing an increasingly important role in management's attaining of these objectives. Although interpretation of this role varies, it is generally accepted that the responsibility of industrial engineers is that of obtaining the most effective utilization of the resources of space, machinery and equipment, material, and manpower.

Thus, the objective and responsibility of industrial engineering is very closely associated with the objectives of any enterprise in using its entire resources for the benefit of its owners, employees, customers and the public.

It is interesting to note the results of a survey made by one nationally-known and important company. This survey asked a cross section of 100 companies what functions they included as responsibilities of the industrial engineering department. The survey in summary shows that the big majority of the reporting companies included these functions:

- Motion Study and Methods Improvement
- Time Study and setting of Production Standards
- Wage Incentive Plans
- Job Evaluation
- Plant Layout

Definitions of Functions Show Wide Diversity

After reporting companies had indicated agreement on the inclusion of these

five functions, the survey indicated very great differences as to other functions included in these departments. A partial list of those most frequently included is as follows:

Operator Training
Foreman Training
Wage and Salary Administration
Personnel Policies
Merit Rating
Suggestion System
Safety
Estimating
Standard Costs
Standard Practice and Procedure
Production Planning and Control
Standards for Material and Overhead
Quality Control and Incentives
Special Studies

Functions other than those mentioned were reported to a total of 46, several of which were obviously overlapping. The survey showed that the average number of functions assigned to industrial engineering per company was 8.6 and the maximum number per company was 14.

This survey is particularly interesting from two points of view. First, it undeniably indicates the diversity and expansion of the functions included in industrial engineering and the acceptance of such departments in a company's organizational structure. Yet secondly, however, the survey indicates a lack of agreement as to the functions which an industrial engineering department should properly handle.

The properly-established department should have its responsibilities clearly defined, its relationship to other departments clearly established and integrated, and its practices and procedures clearly set forth and understood by all. "Co-ordination" is most important in an industrial engineering department as sights are being raised and new areas of interest and need develop.

Important Factors Affecting Industrial Engineers

I will now present some the specific current and next-10-year needs and interests for industrial engineering as we see them. In the category of general considerations the following are important:

1. Wage increases will be the order of the day for at least another year or two. During this same time and in spite of the fact that most prices are now decontrolled there will not be price increases, particularly in the manufacturing field, sufficient to offset increased wages. In other words, the pressure will be on holding down prices. Many companies will be forced to improve cost reduction programs and cost control.

2. Many of our industries will be affected, some seriously, by changes in imports and exports. Some of these changes are already becoming apparent as new factors of competition.

3. Our population will increase at a considerably-above-average rate during the next 10 years. At the same time the number of employable man-years has been shortened and will continue to shrink. These factors together with others will require a substantial increase in productivity. It is estimated that this increase must be at least 15 per cent by 1960 and some estimates state a substantially higher figure.

All three of the above considerations are ample evidence of the increasing need for industrial engineering.

Technical Considerations of Today and of the Future

Some of the technical considerations of the current and next-10-year needs and interests can be stated as follows:

1. Long-range planning is a term that is beginning to lose some of its fuzziness and is being accepted as a necessity by more and more companies. Long-range planning has to do generally with planning from two to 10 years hence with respect to utilization of manpower and all other facilities. The industrial engineer can and should be a very important member of the long-range planning committee.

2. There has been increased interest and activity since the war in the application of direct labor incentives by companies who have not used incentives previously. Of perhaps even greater importance is the fact that many incentive plans established 20 or 25 years ago and some established only 10 or 15 years ago are badly in need of revision and overhaul. Such overhauling jobs are the toughest sort for industrial engineers but must be faced and carried out in the interest of correcting inequities which penalize both labor and management.

3. Statistical quality control is a technique which has been developed during recent years and is being expanded in its use. An Industrial Engineering Department is frequently given the responsibility for establishing this control even though its subsequent administration may be carried out by another department.

4. The application of principles of measurement and incentives to indirect workers is, in my opinion, one of the biggest challenges to industrial engineers today and in the years to come. Indirect workers include that broad band of a company's employees in positions and functions between direct labor and top management. These workers are a challenge because: first, serious inequities exist in these groups. Secondly, to be consistent, management must offer the opportunity of extra pay for above standard performance to all segments of its employees instead of limiting this opportunity to selected groups. Thirdly, and perhaps of greatest importance, is the fact that the measurement and control of indirect labor can result in very substantial and essential cost reductions.

5. Distribution methods and costs offer another important challenge to industrial engineers. Comparatively little has been done in this field but those few companies that have applied a basic engineering approach to determination of improved methods and even production standards to selling has been most gratifying. It requires little imagination to visualize the potential which the very high distribution costs of many companies offers to forward looking managements and industrial engineers.

6. Again, I mention the important need for improving the co-ordination, integration, and definition of principles and practice that is so essential, and too often lacking, in industrial engineering programs.

Manufacturers, Banks, Others Use the New Techniques

Now, let us consider the breadth of the field in which this science is being used.

Manufacturing will no doubt continue to lead the field in the application and use of industrial engineering techniques.

It is important to note the expansion into other fields, however. Many large banks have already set up job evaluation plans and more and more of the smaller banks are turning to the same technique. Having job evaluation, the banks are now beginning to use or consider the use of some form of measurement as a basis for rewarding the individual in relation to performance. Thus we find performance rating gaining acceptance as an incentive plan.

Department stores are using measurement and incentive plans in various departments such as storeskeeping, receiving, shipping, etc. The Executive vice-President of one of the large department stores in New York City recently said

that his firm had three industrial engineers on the staff and were very much interested in expanding the use of industrial engineering for improving operating methods and for extending the use of incentive plans.

Various departments of government have been using industrial engineers during recent years. The organization, procedures and methods of a number of government departments are being scrutinized very closely and many of the projected government economies that will take place during the coming years will result from the application of basic industrial engineering principles and practices.

Large office and clerical staffs are employing industrial engineers and consultants. The big insurance companies are a good example of this trend. Such groups use job evaluation, procedure and method analysis, and time study for determination of production standards, some for incentive purposes.

I commented earlier about the application of industrial engineering to sales work. Although relatively an unexplored field, it is my prediction that this type of activity will see an increasing use of industrial engineering practices and principles.

Now for some brief answers to three specific questions about advancement in this field. The questions:

1. What are the requirements for advancement in industrial engineering?

The biggest requirement is continual study. This is no static field; the man who gets ahead has to gain knowledge constantly. I would place breadth of experience as the next big factor in advancement.

Two qualities which every industrial engineer should develop are; first, that of understanding people—being sympathetic, understanding and tolerant—Human Relations.

Second is that of learning how to sell—how to sell yourself to your fellow employees of whatever rank they may be, and developing the knowledge of how to sell yourself and your ideas to management. As a corollary to this, I would emphasize development of the art of expression, both oral and written.

Finally, successful industrial engineering requires men of broad vision, imagination, fair mindedness and strong determination, unswerving in defense of sound principles and practice.

2. What positions can the industrial engineer aspire to?

The answer to this leads us first to consideration of the trend in the placing of industrial engineering in the management field. The most decided trend has been for industrial engineering to be established at the organization level where it reports directly to the executive in charge of operations. In the larger companies this would be to the vice-President of Operations, in smaller companies it would be to the General Manager. The trend is definitely toward having industrial engineering report to a higher executive level. In increasing instances we find such departments accepted in the organization structure on an equal basis to finance, sales, manufacturing, and so forth—in other words, reporting directly to the top executive. I predict that more and more companies will place industrial engineering in such a relative position.

It is also important to note that there has been a decided trend toward having industrial engineering operate as a staff rather than as a line function.

To follow the industrial engineering field particularly there are specialist positions as a methods man, time study man, procedures man. Such specialists find their greatest opportunity in the larger companies. The smaller companies generally offer an opportunity for men to gain experience in all of the functions covered by the industrial engineering department. As experience is gained, companies offer opportunities as group leaders, up to Chief Industrial Engineer. One company at least has established a vice-President in charge of industrial engineering.

Opportunities Open At All Management Levels

It is particularly significant to note the extent to which many companies are using their industrial engineering departments as a training ground for employees who may go into practically any phase of the companies' operations. It is considered as ideal training for manufacturing supervision positions and for positions in employee relations, finance, production design and development, etc. Thus, industrial engineering training opens up opportunities at practically all levels of management. An increasing number of vice presidents or presidents of companies are coming up to these positions after having basic training in industrial engineering, either as company employees or as having been associated with consulting engineering organizations.

The consulting companies are constantly seeking men for positions as Staff Engineers. From this position the steps are to that of a Supervising Engineer and then to a Partner.

3. What are the pay opportunities in industrial engineering?

In general, the range pretty much follows the pattern of all branches of engineering except that the consulting engineers offer somewhat higher earnings for men with several years of experience and proven ability. The ultimate earnings are unlimited— they can equal those of the top executives in the country. END

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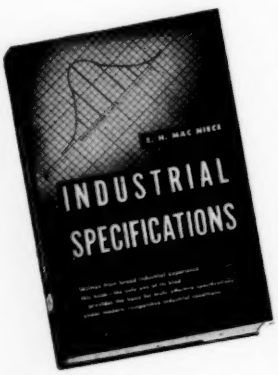

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Director of Quality Control, Johnson & Johnson Co.; currently with the Mutual Security Agency

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Announcement

The Industrial Incentives Award

The Award: Rules

The SOCIETY FOR ADVANCEMENT OF MANAGEMENT presents the Industrial Incentives Award to stimulate research, spread its results throughout the profession, and to widen acceptance and the use of such results by industry.

The Industrial Incentives Award is won by a written submission, suitable for publication, showing evidence of an original idea, a new technique, advanced development, or a unique and constructive application, which The Society judges to be an outstanding contribution to the practice of incentives in industry.

The submission must not have been previously published. It may have been demonstrated by application, or must be deemed practical of application. If put into practice, this must have been at the suggestion of the candidate (the originator of the idea or concept), by him or under his supervision, observation, or control. The application of the idea must have been completed within 12 months preceding his submission.

The Award Itself

The Society honors the winner with a medal, publishes the winning study, presents the honors at a public ceremony. The recipient may receive a sum, not to exceed $400, to finance further incentives research. The recipient shall satisfy The Society that the funds are to be purposefully used to further the award's objectives.

The Society may grant a second award consisting of a three-year membership in The Society, and a third award of a two-year membership.

The Award: Conditions

All manuscripts submitted must be in form suitable for publication, and shall become The Society's property. Any manuscript may be published with usual credit, but publication in itself shall not be considered basis for granting the award. If conditions are not met, or The Society deems no outstanding contribution has been made, the award shall not be made, or The Society may award the medal of honor, but reserve the financial grant.

The Award: Notification

At The Society's Spring Conference, April 29-30, 1954, the award will be announced. With this announcement submission of manuscripts has officially opened. Submissions should be addressed to:

SOCIETY FOR ADVANCEMENT OF MANAGEMENT
INDUSTRIAL INCENTIVES AWARD COMMITTEE
74 FIFTH AVENUE, NEW YORK 11, NEW YORK

SOCIETY FOR ADVANCEMENT OF MANAGEMENT

Official Release

Objectives and Aims of SAM's Material Handling Division

To pursue a broad educational program pertaining to the management aspects of material handling.

To inform management of the importance of material handling to corporate operations and the opportunities afforded by it.

To secure a corps of at least 500 management men in the SAM membership who are vitally interested in the effect of material handling on their respective businesses. Through this group SAM can send material handling educational information to some 30,000 businesses, each employing more than 100 persons.

To promote material handling conference and chapter programs.

To service chapter requests and requirements in the field of material handling.

To perform research in the management phases of material handling.

To assist the United States Government in matters pertaining to material handling management.

Scope of Initial Operations

During its initial year of operation, the Material Handling Division will be primarily concerned with servicing the program requirements of SAM chapters desiring help in preparing material handling educational programs for their memberships.

Conference

Material handling programs shall be included in SAM fall and spring conferences with the exception of the fall of 1953.

Scope of Educational Interest

The Material Handling Division will confine its initial activities to the management aspects of the material handling field.

SAM educational efforts will be directed primarily at management and college groups. Educational efforts initially will stress new material handling ideas, systems, and concepts of interest to management men. Discussions should suggest, among other things, best methods of installation, control of operation and analysis of results obtained, as well as financing, costing and maintenance of new material handling possibilities for corporate improvement.

Foreign Nationals

Foreign nationals occasionally seek material handling aids from SAM or its personnel. Such aids before being rendered should be cleared by the SAM Executive Director with the State Department if such clearance seems advisable.

Where our Executive Director considers extraordinary caution advisable, foreign nationals should be advised to clear their requests through our ambassadors on consuls in the respective countries of the foreign nationals.

Funds for Operation

It is desirable to obtain grants of funds from institutions approved by the Board or Executive Committee, to further material handling research and educational projects.

Governmental and Military Affairs

Complete cooperation with the U. S. Government is desirable. SAM urges all members who are requested by the Government to aid on material handling programs to render every possible assistance.

Trade Institutes

It is SAM policy to maintain a friendly and cooperative relationship with material handling trade associations and institutes.

Distribution of Literature to SAM Members by Outside Sources

A copy of the item for distribution, in its final form or reasonable facsimile thereof, shall be sent to the Executive Director for approval.

The Executive Director, upon proper approval will authorize distribution of the literature or material to the various chapter secretaries or directly to the membership as warranted.

Program

Material Handling programs shall pertain to bulk handling, manufacturing, storage, packaging, layout, and transportation.

Public Relations

Public Relations and Publication Releases affecting national operations must be cleared with the SAM Executive Director prior to release.

Material Handling Societies

SAM members will be encouraged to retain material handling memberships held in other societies. Those SAM members who desire additional education in phases of material handling other than management will be encouraged to join American Material Handling Society, Society of Industrial Packaging and Material Handling Engineers, American Society of Mechanical Engineers, and other similar societies.

Use of SAM Name, Emblem, or Other Identification

The name, identifying mark, or other identification of SAM or any of its chapters cannot be used directly or by implication without the written approval of SAM management. This applies to business, activities, and individuals.

CIPM Reports . . .

Americans have a world reputation for being a nation of joiners and private societies. We have been told for many years by social scientists about this peculiarly American phenomenon and how inter-related it is with the social, economic, psychological, and political orientation of most American individuals. It is only during very recent years, however, that American, as well as foreign, observers have become conscious of the relationship between this phenomenon of group activity and the social and economic progress of the nation as a whole.

The American propensity to support private charities, foundations, trade and technical associations, non-profit management associations, and other societies has relieved the fields covered by these enterprises from public control and financial support—a situation not so typical outside the United States. This tendency, moreover, has favored a more functional and decentralized kind of social organization. In the case of associations such as CIPM, SAM, ASME, AMA, ABA, such activity has encouraged a freer and more professional approach to the dissemination of information and advanced techniques, which in turn has enormously spurred American leadership and advancement in such fields as medicine, public administration, and scientific management. The high American living standard, which derives from high productivity, is both a cause and effect of this American proclivity towards organization on a private, functional, and decentralized basis.

Responsible people abroad have begun recently to perceive this unity and to recognize in it the advantages and opportunities for a similar development in their own countries as a means to improve their countries' economy and productivity—and consequently the economic and social well-being of the entire free world.

One very interesting example of the interest and attention focused abroad on the phenomenon of American associations was the arrival in this country on September 21 of a group of 37 representatives of other countries who are now completing a study of the organization and operations of American associations.

CIPM has been entrusted with the direction of the entire program, which is being held under the auspices of the Foreign Operations Administration, Washington. The group includes management association and productivity center executives from eleven countries: Austria, Belgium, Denmark, Italy, Sweden, Turkey, Formosa, Indo-China, Philippines, Chile, and Mexico.

In the course of the month-long program, the team has had the opportunity to learn about and witness first-hand the organization and operations of American management associations with respect to:

(1) The philosophy (purposes and services) of American association work. (2) The role of different kinds of associations in the American economy (the functional aspect)—what it means to the economy that these associations provide a means of collection, evaluation, and dissemination of knowledge, methods, and techniques. (3) How American industry and business educational institutions work with associations. (4) Organization of associations (national or chapter, and reasons for emphasis. (5) Fund-raising techniques. (6) Recruiting of membership. (7) Organization of programs on an annual basis. (8) Organizing of special conferences. (9) Design and preparation of publications and technical papers to meet the needs of members and to assure their active interest and participation in the associations.

The program for the team began in New York City where lectures, meetings, and discussions were held with CIPM, representatives of SAM, FOA, the Association of Better Business Bureaus, Inc., the American Society of Mechanical Engineers, the National Industrial Conference Board, the American Marketing Association, the Committee for Economic Development, the National Association of Manufacturers, and the American Management Association.

Bruce Payne, President; C. A. Slocum, Executive Director; and Vincent A. Flynn, Director of Research, SAM, discussed the history and activities of SAM on Friday, September 25, at the 74 Fifth Avenue National Office.

From October 6 to October 11 the visiting team went to Detroit where a plant visit was made to the Burroughs Adding Machine Company, a meeting was held by the Automobile Manufacturers' Association, and a discussion was held on the activities, services, and publication of the American Society of Tool Engineers. In Chicago from October 11 to October 14, the team was introduced to the curriculum of the School of Commerce at Northwestern University, as well as to representatives of associations which work with that school. A meeting was also held in Chicago at the Harvester Education and Training Center, International Harvester Company.

Traveling to Cincinnati on October 15, the team made a visit to the Lunkenheimer Company to see how some of its executives work directly with SAM.

The concluding days of the program were spent in Washington, D.C., where officials of the U. S. Department of Commerce, the American Trade Association Executives, and the United States Chamber of Commerce discussed the activities of their organization in the trade association field. Informative meetings were also held with officials of the National Planning Association, the Bureau of Labor Statistics, the Department of Labor, the OEEC Mission, the Foreign Operations Administration, the Congress of Industrial Organizations, and the American Federation of Labor.

The team will leave the United States for their respective homes on October 26.

by ROBERT GLEASON

COUNCIL FOR INTERNATIONAL PROGRESS IN MANAGEMENT, formerly the National Management Council, is a non-profit, non-political organization devoted to the promotion of the science of management on the international level. SAM is a co-founder and charter member of CIPM.

AM Labor Relations Report . . .

Wage-Hour Regulations and Profit Sharing

What goes into regular rate of pay is a problem which continually plagues personnel people. Frequently the government helps complicate the problem.

On June 10, 1953, Par 549 of the Wage and Hour Regulations was published in the Federal Register. This Part covers "Requirements of a Bona Fide Profit-Sharing Plan or Trust" and is effective July 10, 1953. Officially it is Title 29, Chapter V, Code of Federal Regulations, Par 549 prepared pursuant to Section 7 (d) (3) (b) of the Fair Labor Standards Act of 1938, as amended.

Let's see if some plain, understandable language can be lifted from the regulation so that no mistakes will be made in determining the regular rate of pay. Section 549.0 (a) establishes that, "in determining the total renumeration for employment which Section 7 (d) of the Act requires to be included in the regular rate, it is not necessary to include and sums paid to or on behalf of such employee, in recognition of services performed by him during a given period, which are paid pursuant to a bona fide profit-sharing plan or trust," as defined in the regulation.

Section 549.3 of Part 549 defines the difference between "plan" and "trust" as used in the regulation:

(a) "Profit-sharing plan" means any such program or arrangement as qualifies which provides for the distribution by the employer to his employees of their respective shares of the profits.

(b) "Profit-sharing trust" means any such program or arrangement as qualifies which provides for the irrevocable deposit by the employer of his employees' distributive shares of profits with a trustee for deferred distribution to such employees of their shares.

Section 549.1 sets up the essential requirements for qualification for purposes of Section 7 (d) (3) (b) of the Act. It must meet *all of the following standards* and in addition must not have any of the disqualifying provisions set forth in Section 549.2.

1. The profit-sharing plan or trust constitutes a definite program or arrangement in writing, communicated or made available to employees, which is established and maintained in good faith for the purpose of distributing to the employees a share of profits as additional remuneration over and above the wages or salaries paid to employees which wages or salaries are not dependent upon or influenced by the existence of such profit-sharing plan or trust or the amount of the payments made pursuant thereto.

2. All contributions or allocations by the employer to the fund or trust to be distributed to the employees are:

(a) Derived solely from profits of the employer's business, enterprise, establishment or plant as a whole, or an established branch or division of the business or enterprise which is recognized as such for general business purposes and for which profits are separately and regularly calculated in accordance with accepted accounting practices and,

(b) made periodically, but not more frequently than is customary or consonant with accepted accounting practice to make periodic determinations of profit.

3. Profit-sharing eligibility extends:

(a) At least to all employees who are subject to the Act or to all employees in an established part of the employers business as defined above provided, however, that such eligibility may be determined by factors such as length of service or minimum schedule of hours or days of work which are specified in the plan or trust, and further, that eligibility *need not* extend to officers of the employer, or

(b) to such classifications of employees as the employer may designate with the approval of the Administrator upon a finding, after notice to interested persons, including employee representatives, and an opportunity to present their views either orally or in writing, that it is in accord with the meaning and intent of Section 7 (d) (3) (b) of the Act and the regulations. The Administrator may give such notice by requiring the employer to post a notice approved by him for a specified period and in specified places.

4. The amounts paid to employees are determined in accordance with a definite formula or method of calculation specified in the plan or trust. The formula or method of calculation may be based on any one or more of such factors as straight-time earnings, total earnings, base rate of pay, straight-time hours or total hours worked or length of service or distribution on a per capita basis. An employee's total share determined in accord with the above may not be diminished because of any other remuneration.

5. Provision is made either for payment to the individual employees for their respective shares within a reasonable period after the amount to be distributed is determined, or for the irrevocable deposit by the employer of his employees' distributive shares with a trustee for deferred distribution after a stated period of time or upon the occurrence of appropriate contingencies specified in the plan or trust; provided however, that the right of an employee to receive his share is not made dependent upon his continuing in the employ of the employer after the period for which the determination of profits has been made.

Now for the disqualifying provisions; none of which may be contained in an approved plan:

1. If the share of any individual employee is determined on the basis of attendance, quality or quantity of work, rate of production, or efficiency;

2. If the amount to be paid periodically by the employer into the fund or trust to be distributed to the employees is a fixed sum;

3. If periodic payments of minimum amounts to the employees are guaranteed by the employer;

4. If any individual employee's share is set at a pre-determined fixed sum or is so limited as to provide in effect for a fixed sum, or is limited to or set at a predetermined specified rate per hour or other unit of work or worktime;

5. If the employer's contributions or allocations to the fund or trust to be distributed to the employees are based on factors other than profits such as hours of work, production, efficiency, sales or savings in cost.

by LOWELL F. JOHNSON

AM Advertising Review . . .

Friday afternoon, September 18th, the SOCIETY FOR ADVANCEMENT OF MANAGEMENT passed another milestone in its more than forty-two years of growth.

Editors, consultants, college professors and others attended an Open House function at the spacious new National Headquarters of The Society, 74 Fifth Avenue, New York.

It was this reporter's good fortune to meet many editors and business officials who expressed an interest in the new Research Department of The Society, directed by Dr. Vincent A. Flynn.

One editor, whose publications serve an industry that ranks seventh in dollar volume in the United States, asked us to prepare a series of articles, to be released in serial form. He said, "Scientific management, the approach of your Society, is urgently needed by our thousands of subscribers."

One of our largest technical book publishers said, "Evidently we have overlooked a live, fertile market for many of our books. May I have some of your literature for my advertising department to study?"

An industrialist watched the showing of our famous Time Study Films and immediately placed his order for one set.

Since the announcement of our new Research Department appeared in the August issue of AM, seven officials of different companies have asked for information about how they might use the advertising pages of AM to widen their markets.

Unlike the giants in the publishing field, ADVANCED MANAGEMENT does not now, and probably never will, aggressively solicit any and all advertisers. It will, however, through careful research and daily contact with its 58 Chapters, supply any advertiser the information he may want to prepare advertising that will be effective when released in AM.

As announced in the August issue of AM, a complete file of FORTUNE MAGAZINE is now at the disposal of anyone who is interested in the ebb and flow of American business, from February 1930 to date.

In these 274 issues, the reader will find reports, charts, and statistics covering practically every segment of business, from raw materials on out to the consumer's home, office, or plant.

In addition to this basic world of information, there is a Library of over 1,000 volumes, to which is added each month from five to ten current studies.

ADVANCED MANAGEMENT offers many advertisers a line of communication to thousands of The Society's members who now have a vote when new sources of supply are contemplated. They are buyers.

The Research Department of SAM invites inquiries about any problem that has to do with research or advertising, about goods or services that are to be offered to our members. There is no charge or obligation for this service.

by FRANK E. FEHLMAN

The 1953 Look . . .

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Here in one volume are the authoritative and lucid reports on latest developments in Time Study and Methods. The most advanced management men in their fields give you results of recent study and research on vital subjects. Send for your copy of Proceedings today . . . benefit from the experience of these top management men by putting their findings into practice in your own company!

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The Management Bookshelf . . .

22 Proven Ideas of Interest to All Kinds of Management Men

PUBLIC RELATIONS IDEA BOOK. *Compiled by editors and contributors of Printers' Ink, 205 East 42nd St., New York 17, N. Y. 352 pages. $5.00.*

Probably the most succinct description of Public Relations is the one that FORTUNE used in one of their lead articles, "The Public Be Damned," that appeared in their March 1939 issue.

"Public relations is more than a tricky phrase, covering an emergent concept of business. It is a number of people who are beginning to give the concept form. Most eminent of counsel was the late Ivy Lee who gave the name to the work he did in 1904 for the strike-beset anthracite operators, and who later became regular counsel to the Pennsylvania Railroad, and who in 1914 made his place and fame secure by taking charge of the public relations of John D. Rockefeller, Jr."

Like practically all of the thousands of public relations men and women now serving stores, plants, school boards, shipping lines, the theatre, banks, in fact every segment of modern life, these people served their apprenticeship with some newspaper or magazine.

Since 1904 when Printers' Ink was an adolescent, 15 years old, it has reported the work of public relations people. In the past 49 years the Editors of PRINTERS' INK have probably seen, read, and released more information about all phases of public relations than any other publication in the country.

In the introduction of this remarkable book, Edward L. Bernays, whose clients read like a list from Who's Who, said: "This volume is a valuable compilation of extracts from PRINTERS' INK . . . the material is rich in suggestion and is a living diary of ideas about public relations and industrial relations . . ."

Public Relations Idea Book, the latest of their distinguished list of books that now comprise their Book Shelf with 24 other titles, has a 21-page index that enables the reader to find, almost instantly, answers to his questions about any phase of Public Relations work that might be used to inform the general public, civic groups, employees, dealers, communities, stockholders, and suppliers.

Here in one carefully documented book will be found 692 ideas that have been used, and that worked. No one individual could write such a book.

In the chapter devoted to employees are twenty-two proven ways to build a sound public relations program inside the plant, store or office. This chapter alone should be of tremendous interest to every reader of AM.

Like all of the Printers' Ink Books, the publisher offers to send Public Relations for a ten-day reading without any obligation. Either you like it, or you return the book.

by FRANK E. FEHLMAN

Book on Selling Proves How Salesmen are Made, Not Born

HOW TO SELL YOUR WAY TO SUCCESS, *by Charles B. Roth. 207 pages. $3.50. McGraw-Hill New York.*

There are 3,750,000 men and women in the United States earning their living nominally as salesmen, and another estimated 47 million to whom salesmanship is the prime requisite for success in their jobs. Charles B. Roth points out, however, in *How to Sell Your Way to Success*, that the average level of sales efficiency in this country is not over 20 per cent.

Mr. Roth has attempted to correct this situation by teaching salesmanship from the ground up. The basis of his approach is the Formula—the "master success formula which applies to every human contact you will make." The formula can be reduced, essentially, to this: find a prospect, get attention, develop interest, win confidence, create desire, and close the sale.

After stating this formula in Chapter I, the author proceeds to examine each of the factors in detail, writing in a clear, fast style that is sprinkled with colorful, illustrative anecdotes.

Among other pertinent topics discussed in *How to Sell Your Way to Success* are the Development of a Sales Personality, the Art of Persuasion, How to Apply Knowledge of Human Nature, How to Manage Yourself in Selling.

New Survey of Specifications Systems is Valuable Aid to Industrial Management

INDUSTRIAL SPECIFICATIONS, *by E. H. Mac Niece. 153 pages. John Wiley & Sons, Incorporated. New York. Price $4.50.*

The true, dyed-in-the-wool, mystery story reader considers it almost a sin to skip even one page when he settles down intent on discovering who committed the crime described in Chapter One.

Those who decide to own E. H. Mac Niece's new book, *Industrial Specifications*, are advised to quickly check the eleven chapters that are listed on the Contents page, then jump to Mr. Mac Niece's "Conclusion," page 150.

As Director of Quality Control for Johnson & Johnson, Mr. Mac Niece writes with authority. In his Conclusion he states, "Man will always want to specify. He will want to specify with increasing accuracy and within ever-narrowing limits . . . Standards, measurement, and specification form the bedrock supporting reproducibility, uniformity, and value."

The Publisher states on the jacket of this remarkable book, "The only one of its kind."

It is our guess that this book will find its way to top management people as well as other levels in any plant where laboratory people are working for better specifications, lower production costs, etc. It is a book that will be used more often than your dictionary. It is a good book, a really great book that will be welcomed by thousands who are seeking better ways to achieve quality control.